



IMPLEMENTATION RECOMMENDATIONS FOR HAWAII REVISED STATUTES CHAPTER 486H, GASOLINE PRICE CAP LEGISLATION

Prepared for:

Hawaii Public Utilities Commission

Submitted by:

ICF Consulting, LLC

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HAWAII GAS CAPS CHARTER AND INTRODUCTION

CHARTER

ICF Consulting, LLC (ICF) has been retained by the Hawaii Public Utilities Commission (PUC) to assist in reviewing and evaluating the issues and requirements raised by, and contained in, Hawaii Revised Statutes (HRS) Chapter 486H, as amended. ICF was specifically requested to evaluate the appropriateness of the baseline price as defined (486H-13(c)), the location adjustment factor (486H-13(d)), the marketing margin factor (486H-13(e)), the midgrade and premium adjustment factors (486H-13(f) and (g)), documents and data needed to determine zone price adjustments (486H-13(h)), zone price adjustments (486H-13(i)), and documents and information necessary to determine compliance (486H-13(j)). ICF was also asked to identify any other adjustments necessary to establish maximum pre-tax wholesale gasoline prices that reflect and correlate with competitive market conditions.

In preparing this report, ICF focused our analysis on the PUC and Legislature's intent to formulate a wholesale Gas Cap process that reflected competitive market conditions. The legislation's goal is essentially to make a regulated process as close to "free market" as possible. ICF performed this work using our best professional judgment to arrive at a result which reflected what the data revealed and at the same time both met the stated goals of the legislation and the directed requirements of our contract with the PUC.

WORK PROCESS

ICF's efforts were coordinated very closely with the PUC, although the PUC provided no guidance or direction to ICF in our analytical process. We secured market related data from both public sources and price service companies. Detailed data on aspects of the Hawaii market was not publicly available and required input from Stakeholders to assist ICF in preparing some areas of the report.

As requested by the PUC, this report is being presented to the Legislature. This report is being made public to all entities on April 15, 2005 and the Legislative briefing is on April 19, 2005. On May 19, 2005, there will be a meeting with the Parties to Docket No. 05-0002 to address technical questions, assumptions, and issues with the report. On May 27, 2005, the Parties will be submitting information requests to ICF. On June 17, 2005, ICF will respond to the Parties' information requests. On July 1, 2005, the Parties will submit their position statements. On July 11, 2005, the Parties will submit their rebuttal position statements. The PUC will review the record and issue a final decision and order.

Implementation of the Gas Caps is scheduled to begin September 1, 2005. In order to meet that deadline, it will be necessary to develop an implementation process, including design of the database and tools required to manage the Gas Cap process, determine compliance, and communicate with Stakeholders. At this time, we believe that the implementation date remains achievable; however the development of an effective system for both the PUC and Stakeholders will take time and should be initiated promptly.

CONSIDERATIONS

As reported in the Stillwater analysis¹, efforts in other jurisdictions to implement caps on gasoline prices have typically failed. The approach proposed by the Legislature, with the appropriate modifications suggested herein by ICF, provides a framework to protect Hawaii consumers from excessive price aberrations, and sustains a price level and margins that permit a market based value for gasoline for refiners and suppliers.

As noted by the Legislature, it is not the intent of the legislation to enact Gas Caps to guarantee lower Hawaii gasoline prices; rather, the “objective of this Act is to enhance the consumer welfare by fostering the opportunity for prices that reflect and correlate with competitive market conditions”.² Furthermore, it was not in ICF’s charter to question or analyze the appropriateness of the Gas Cap legislation, or other energy initiatives.

The mechanism proposed utilizes fundamental market information as a benchmark for weekly price updates and annual zone, grade, and marketing margin adjustments. ICF has made a number of decisions that we believe provide a process that is transparent and relatively simple to understand, update and track for compliance. The assumptions made often required judgment in terms of the best representation of prices, margins, costs, etc. The recommendations herein represent ICF’s best judgment of the appropriate factors to meet the criteria of the Charter.

Please note that while prior studies indicate that there is sufficient competition at the retail level in Hawaii, there is no obligation whatsoever for retail dealers in Hawaii to modify their prices in the event the Gas Cap implementation results in lower wholesale prices.

GLOSSARY

There are a number of terms used throughout this report which refer to Oil Industry terminology, Commodity markets, government terms, and so on. ICF has prepared a glossary which follows the List of Exhibits. This may be useful for reference for all readers. The glossary will be used in lieu of excessive explanatory footnotes or embedded definitions.

¹ Stillwater Associates, *Study of Fuel Prices and Legislative Initiatives for the State of Hawaii*, 8/15/2003

² SB3193CD1, Page 3 of 20, September 16, 2004.

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GLOSSARY

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| ANS | Alaska North Slope, term used to designate crude oil of that region. |
| API Gravity | American Petroleum Institute measure of specific gravity of petroleum products in degrees. An arbitrary scale expressing the gravity or density of liquid petroleum products. The measuring scale is calibrated in terms of degrees API; it is calculated as follows: Degrees API = $(141.5 / \text{sp.gr.}60 \text{ deg.F}/60 \text{ deg.F}) - 131.5$. |
| Barge | A vessel carrying oil usually on rivers - containing between 8,000 to 50,000 bbl or weighing 1,000 to 10,000mt. In the United States, barges can be up to 100,000 bbl, and some are even a bit larger. The barge typically requires a tugboat to provide propulsion. |
| Barrel | A unit of volume equal to 42 U.S. gallons. (bbl) |
| Branded | A specific supply arrangement with a supplier that markets a specific brand. The supplier is usually contractually obligated to sell a specific amount of product to the reseller. |
| Bulk Sales | Wholesale sales of gasoline in individual transactions which exceed the size of a truckload. |
| Cano Limon Crude | Heavy, ANS type crude from Columbia. |
| CARB | California Air Resources Board. |
| CARBOB | California Reformulated gasoline Blendstock for Oxygenates Blending. |
| CEC | California Energy Commission. |
| Company Operated Outlet | Retail gasoline station that sells gasoline branded by the refinery where it was produced, and operated by company personnel. |
| Conventional gasoline | Finished motor gasoline not included in the oxygenated or reformulated gasoline categories. |
| CPG | Cents per Gallon. |

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| Crack Spread | Term applied to the differential between the value that a typical refined products mix would yield, and the value of crude. The common crack spread features a per bbl reference derived of 66.6% unleaded gasoline and 33.4% No. 2 oil. The resulting average is compared to the WTI (West Texas Intermediate Crude) price for the resulting "crack spread." |
| Crude Oil | Raw material for refinery processing into products. |
| Crude Unit | The initial refining operation in which the basic cuts of fuel are distilled out of crude oil. |
| DBEDT | Department of Business, Economic Development and Tourism of the State of Hawaii. |
| Dealer Tankwagon (DTW) | The price that the dealer pays to its supplier, usually a jobber or refiner. Dealer prices are usually higher than rack prices because they include transportation costs. A tankwagon is the actual vehicle that the supplier or jobber uses to transport product to the dealer. |
| Demurrage | The charge paid to the vessel owner or operator for detention of a vessel at the port(s) beyond the time allowed, usually 72 hours, for loading and unloading. |
| Duri Crude | Heavy sweet Indonesian Crude. |
| EIA (Energy Information Administration) | The independent data and statistics division of the Department of Energy that compiles data on petroleum supply and demand on a weekly and monthly basis. These figures are not as timely as API statistics, but are considered more accurate. |
| ERT | Energy, Resources, and Technology, a division of the DBEDT. |
| Ethanol | An alcohol which is most often derived from corn. Ethanol is designed to be blended with gasoline to produce a cleaner burning fuel, and is an accepted oxygenate component for the oxygenated seasons mandated by the EPA. |
| Flat Rate | The baseline price for a specific trip on a specific sized tanker. |
| FOB | Terms of a transaction where the seller agrees to make the product available within an agreed-upon time period at a given location. Literally means free on board. Does not include any transportation costs or excise and duty. |
| FTC | Federal Trade Commission. |

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| Gasoline | A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in spark-ignition engines. Motor gasoline, as defined in ASTM Specification D 4814, is characterized as having a boiling range of 122 to 158 degrees F at the 10 percent recovery point to 365-374 degrees F at the 90 percent recovery point. |
| GPY | Gallon per Year. |
| Historical Volatility | The annualized standard deviation of percent variation in futures prices over a specific period of time. Indicates past volatility in the marketplace. |
| HVR | High Volume Retailer, a gasoline station selling 500,000 gallons per month or more and generally operated on low margins by discount retail operations such as Costco, Wal-Mart or large grocery chains |
| ICF Basket | A source price approximation for Hawaii developed from Singapore and Caribbean gasoline prices. |
| Import Parity | The market-based cost of landing imported petroleum products which includes all source, transportation, and handling costs. |
| Jobber | Someone who purchases refined products at the wholesale level and then transfers or resells the product at the retail level. The retail level sale/transfer can occur at facilities owned by the jobber, independent dealers or commercial accounts. |
| Jones Act Vessel | The Merchant Marine Acts of 1920, 41 Stat. 988 as amended and 1936, 19 Stat. 1985 reserve the coastal shipping to vessels operating under the US flag, built in the United States, and manned by US citizens. These statutes are known collectively as the Jones Act and vessels that fit the definition are known as Jones Act vessels. |
| Laid down cost | Detailed estimates of rack replacement costs using spot prices and including pipeline tariff costs, shrinkage fees, proprietary additive fees plus other miscellaneous costs. |
| MBD | Thousand Barrels per Day. |
| Midgrade Gasoline | Gasoline having a road antiknock index, i.e., octane rating, greater than or equal to 88 and less than or equal to 90. Typically 89 Rd in US markets. |
| MOPS | Mean of Platt's Singapore, a Singapore spot market reference price reported by Platt's. |
| Motor ON | Motor Octane Number, a measure for the anti-knock properties of gasoline derived from engine tests. |

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| Mt | Metric ton equal to 1.102 short tons |
| MTBE (Methyl Tertiary Butyl Ether) | Ether used in the blending of reformulated gasolines, affecting vapor pressure and octane level. Unlike ethanol, MTBE is fungible and will not separate out during shipment. |
| Multiple Porting | Barge movements which deliver product to more than one destination |
| Netbacks | The price a refiner receives for the sale of petroleum products after deducting the transportation or affiliated costs in shipping the product from its point of origin (i.e., pipeline tariffs, waterborne freight, storage fees, line loss, cost of capital, etc.). |
| NYMEX | New York Mercantile Exchange. |
| Octane | A number used to indicate gasoline's antiknock performance in motor vehicle engines. The two recognized laboratory engine test methods for determining the antiknock rating, i.e., octane rating, of gasolines are the Research method and the Motor method. To provide a single number as guidance to the consumer, the antiknock index $(R + M)/2$, which is the average of the Research and Motor octane numbers, was developed. |
| OPIS | Oil Price Information Service. |
| Oxygenated Gasoline | Finished motor gasoline, other than reformulated gasoline, having oxygen content of 2.7 percent or higher by weight. |
| Oxygenates | Substances which, when added to gasoline, increase the amount of oxygen in that gasoline blend. Ethanol, Methyl tertiary butyl ether (MTBE), Ethyl tertiary butyl ether (ETBE), and methanol are common oxygenates. |
| Petroleum Administration For Defense Districts (PADD) | Five geographic area into which the United States was divided by the Petroleum Administration for Defense for purposes of administration during federal price controls or oil allocation. PADD V includes Hawaii, Alaska, Washington, Oregon, California, Arizona and Nevada. Most energy data are reported on a PADD level basis. |
| Platt's | Information service that reports international and domestic oil and petroleum product prices. |
| Premium gasoline | Gasoline having a road antiknock index, i.e., octane rating, greater than 90. Typically either 93 Rd or 92 Rd in US markets; Hawaii Premium is 92 Rd. |
| Primary Storage | Petroleum storage tanks at refineries, pipelines and oil company terminals. Product inventory changes at these facilities are what |

constitute API and EIA demand computations.

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| PUC | Public Utilities Commission, the agency charged with the oversight of regulated utilities. |
| Rack | Petroleum products sold at the wholesale level from primary terminal storage. Refers to loading racks where tanker trucks fill up. |
| Refinery | An installation that manufacturers finished petroleum products from crude oil, unfinished oils, natural gas liquids, other hydrocarbons and oxygenates. |
| Refinery Utilization Rate | Represents the use of the atmospheric crude oil distillation units. The rate is calculated by dividing the gross input to these units by the operable refining capacity of the units. |
| Reformulated Gasoline (RFG) | Finished motor gasoline, the composition and properties of which meets the requirements of the reformulated gasoline regulations promulgated by the U.S. EPA under Section 211(k) of the Clean Air Act. |
| Regular Gasoline | Gasoline having a road antiknock index, i.e., octane rating, greater than or equal to 85 and less than 88. Typically 87 Rd in US markets. |
| Research ON | Research Octane Number, a measure for the anti-knock properties of gasoline based on laboratory testing. |
| Road ON (RON) | Road Octane Number, the average of the Motor ON and Research ON. |
| RVP (Reid Vapor Pressure) | RVP is used to measure pressure in terms of pounds per square inch (psi). In terms of gasoline, RVP is used as an ozone control mechanism. |
| Secondary Storage | Petroleum storage tanks consisting of retail gas stations, bulk plants and commercial storage. |
| Spot | A deal for supply wherein the price is negotiated between the buyer and the seller, and the supply commitment varies. |
| Spot Market | High volume (25,000 barrel to 300,000 barrel) contractual agreements between oil companies dictating delivery of petroleum products or crude oil in the near future for an established sales price. Since this market reacts quickly, and is an alternative to wholesale sales, it provides a good indication of the direction of wholesale price trends. |
| Tank Turnover | Frequency that inventory changes in a storage tank; a 50 MB tank with 10 MBD throughput “turns over” in 5 days. Measure of cost efficiency. |

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| Tariff | A schedule of rates that a common carrier pipeline is permitted to charge to transport petroleum products or crude. |
| Terminal | A facility used primarily for the storage and/or marketing of petroleum products, which has a total storage capacity of up to 500,000 barrels or more and/or receives petroleum products by tanker, barge, or pipeline. |
| Unbranded | A supply arrangement with a supplier that is usually not contractual, and does not usually guarantee a specific amount of supply. |
| USGC | US Gulf Coast. |
| Worldscale | Worldwide Tanker Nominal Freight Scale; this system brings out bi-annually revised index of freights based on the full cost of operating a standard tanker to and from known ports. |

EXECUTIVE SUMMARY

ICF Consulting (ICF) presents this report at the request of the Hawaii Public Utilities Commission (PUC or Commission) to review of HRS § 486H, as amended. The specific tasks performed by ICF are defined in Appendix 1, which lists the required scope of services with the PUC.

OVERVIEW

ICF's analysis of the amendments to HRS § 486H has resulted in a number of recommendations to the PUC to adjust the factors in the Legislation to more fully and effectively meet the intent of the Gas Cap legislation.

The legislation as enacted incorporates the key steps in building up to a competitive market based price for wholesale gasoline. ICF's analysis, however, indicates that there are areas which should be altered to better reflect the competitive market price in the baseline source cost of gasoline, the location adjustment (freight cost), marketing margins, and adjustments to marketing margin for premium and midgrade gasoline. In addition, ICF recommends that the PUC adjust the marketing margin to recognize the multiple levels of trade in wholesale gasoline marketing.

ICF has also identified cost adjustments for each of the regional zones listed in the legislation. These recommendations are based on recent information requested and received from the Oil and Barge companies.

ICF has also identified the data and information needed to communicate, monitor and demonstrate compliance with the Gas Caps. It is essential that a system and database be established and tested prior to the start date of the Gas Caps so that the PUC and Stakeholders have an acceptable and transparent process in place. It will be challenging to accomplish this by September 1.

In addition, all Parties should recognize that the implementation of this process will represent a core change in the gasoline market in Hawaii. The review of this report, implementing the legislation, and initiation of the Gas Caps on a weekly basis, will be a learning experience for all parties. The experience may dictate need to further modify the Gas Cap process after the PUC's final ruling. ICF recommends that the PUC provide for a review of the process and impact at a point no later than 6 months after the Gas Cap process begins.

RECOMMENDATIONS

ICF's analysis of HRS § 486H indicates that there are multiple areas that the PUC should consider for improvement. The primary recommendations are:

- The baseline price of gasoline stated in 486H-13(c) (Task A) should be modified from the US Mainland price points (Los Angeles, New York, and the US Gulf Coast), to reflect the most likely alternative source points for gasoline into Hawaii, namely the Far East and Caribbean markets. Analysis of these markets over the past 5 years (1999-2004) indicates that this modification would have resulted in an 8.5 cpg lower baseline price than the original Legislative recommendation.

- The location adjustment factor proposed in 486H-13(d) should be modified from a fixed 4 cpg to a factor which varies weekly based on the freight market for gasoline cargoes. Freight markets, much like the price of oil, can vary considerably, and must be recognized accordingly. Moreover, the location factor proposed was extraordinarily low based on all historical information ICF evaluated. Our analysis indicates the location factor, from the ICF proposed baseline sources (Far East and Caribbean), would have resulted in an average 7.5 cpg higher location adjustment than the 4 cpg included in 486H-13(d).
- The above two factors (Baseline price and location adjustment factor) represent the delivered alternative cost of gasoline into Hawaii. This price, calculated on a weekly basis, is the import parity price, or average cost an importer may need to pay to position gasoline in Oahu to compete with local gasoline supply. For the purpose of calculating Gas Caps, it is the base cost of wholesale gasoline supply on Oahu.
- The marketing margin factor stated in 486H-13(e) (Task C) is 18 cpg. The legislation is silent on the definition of this margin. The Oil Industry has several classes of wholesale trade leading to a delivery to a retail service station. These include a) bulk sales into pipelines, barges, or ships, b) sales from a terminal rack ("Rack sales") into a distributor or jobber's truck, and c) Dealer Tankwagon sales (DTW), or delivered sales from a supplier to the service station dealer. Both the Rack and DTW sales may be "branded" or "unbranded". Branded sales are made to dealers, distributors or jobbers who sell gasoline under the brand of the seller; unbranded sales are made to dealers, distributors or jobbers who sell gasoline under their own brand.

The different classes of trade cannot be regulated under one common margin. For example, bulk sales take place at price levels at or near spot market conditions, which typically generate very little marketing margin. Rack sales are sold FOB a petroleum terminal loading rack, and command a price that provides a profit level above the cost to transport the gasoline to the terminal. Branded rack sales are typically sold at a premium to unbranded rack sales because branded customers have a contractual relationship with sellers that provide branded customers with supply reliability, branded gasoline additives, and marketing support under the seller's trade name. Unbranded customers normally get a lower price, with no branded additives or supply assurance, and risk of higher-than-branded prices when supply is tight. Customers who buy on a DTW basis pay additional cost to have product delivered by the supplier to the service station; branded dealers buying on a DTW basis additionally receive support from the seller in supply reliability, marketing guidance, and cost offsets.

In addition, there can often be multiple wholesale transactions prior to delivery to a service station. For example, Refiner ABC may sell gasoline on a bulk basis to company DEF, who sells gasoline to a branded distributor XYZ at a branded Rack price, who sells gasoline on a DTW basis to a service station. ICF is recommending extensive adjustments to 486H-13(e) to provide a different marketing margin for each class of trade in Hawaii.

In order for a marketer to be profitable, the wholesale price must be high enough to cover the cost of purchased product and the cost of the marketing business. The basis for ICF's determination of market based marketing margins is to evaluate historical marketing margins in selected Mainland locations for each class of trade. The use of Mainland margins allows the Gas Cap formula to recognize fundamental changes in marketing margins over time, as well as the differences between the classes of trade. Mainland margins can be volatile due to local supply and demand issues, with periods of high margins and periods of very low margins. The recommended margin caps proposed by ICF range from 1 cpg for a cap on bulk sales above import parity to 15 cpg above import parity for DTW volume. ICF additionally recommends that these marketing margins be evaluated and updated annually based on a methodology identified by ICF.

- The adjustment factors proposed in 486H-13 (f) and (g) (Tasks D and E) for Midgrade and Premium gasoline are relatively close to results of ICF's analysis for gasoline sales on a DTW basis. ICF is also recommending Midgrade and Premium adjustment factors for Bulk and Rack classes of trade as well. These adjustment factors should also be reviewed and updated annually, and ICF has developed a methodology to do this.

For 2005, ICF's analysis recommends premium adjustment factors ranging from 6 cpg (Bulk) to 10 cpg (DTW), and Midgrade factors ranging from 2 cpg (Bulk) to 6.5 cpg (DTW).

- The legislation defines in 486H-13(h) the eight zones that Hawaii will be apportioned into for the purposes of the determining Gas Cap prices. Section 486H-13(i) charges the PUC to define the zone by zone cost adjustments, and Section 486H-13(j) requires Parties to provide information to the PUC to make this determination. (Tasks F, G, and H)

ICF provides in this report the types of data needed to determine zone price costs. The data required includes the costs for barge movement to the zones, terminal costs for product storage and handling, and truck movement to the retail customer (for DTW sales). ICF has secured data from the suppliers in Hawaii and the Barge companies, and has recommended adjustment factors for each zone based on actual cost history (as per 486H-13(i)).

The cost data for every supplier is somewhat different due to different facilities, contracts, work processes, etc. ICF has recommended that an industry average cost be used. This may benefit some suppliers and penalize others, however it will provide incentive for higher cost suppliers to lower their zone supply cost structure. A zone cost adjustment which simply "passes through" actual cost will provide no clear incentive to improve the distribution system through reducing costs.

The zone price adjustments basically cover the costs to deploy Oahu based volume into each zone. The goal of the Gas Cap formula is to recognize the true cost to move product to the zones, store in terminals, and deliver to customers. ICF recommends that the zone costs be examined and adjusted yearly based on trends in costs for barging, labor, etc. The costs to move product from Oahu to other zones range from 7 – 10 cpg for barging and terminaling, with smaller islands higher.

Trucking costs for the DTW class of trade can average up to 4.5 cpg higher than Oahu depending on the zone.

The data from the Industry indicates that one significant cost issue in supplying the zones outside Oahu is scale. Due to relatively low demands in the outer islands, the cost of tankage and barging can become higher than in Oahu and Mainland locations. Costs are typically minimized in major market locations by maximizing tank turnover, barge delivery size, and multiple porting of Marine equipment. The Hawaiian geography, oil infrastructure, and demand profile make that difficult to achieve in the State outside of Oahu.

- Exhibit ES-1 at the back of the Executive Summary shows the overall process flow to determine wholesale gas caps on a weekly basis. This includes the baseline price and location (freight), marketing margins, premium and midgrade adjustments, and zone cost adjustments. This process results in the weekly determination of 96 separate price caps for Hawaii wholesale gasolines (3 grades, 4 classes of wholesale trade and 8 zones). Exhibit ES-2 shows specific factors recommended to the PUC by class of trade, product grade, and zone, as well as an example calculation. Factors shown are developed based on 2004 data and would apply to 2005 Gas Cap calculations.
- In order to determine the extent to which manufacturers, wholesalers or jobbers are complying with the requirements of 486H-13, ICF recommends that a Gas Cap management system be developed and implemented. The system should provide a secure means for Parties to input transaction data for the PUC to monitor for compliance, and will provide a quick and effective means for the PUC to calculate weekly gas caps, receive market data, and communicate updated gas caps in a timely manner to Parties, including the Public. Moreover, the system should provide the PUC with the ability to track Supplier's pricing practices, and to insure the caps are being used as caps, and not price targets.

The data required from the Parties will be the basic information found in sale transaction invoices, including date, location, quantity, price, grade of gasoline, buyer and seller, etc. In addition, the zone of each transaction will be required, as well as the class of trade (Bulk, Rack-Branded or Unbranded, or DTW) and the method of delivery. With DTW pricing, it is likely that an average DTW margin cap may result in some remote stations incurring an above average cost (higher than average trucking to that area), and other stations nearer the source terminal a lower than Cap cost. The system will need the capacity to calculate and compare average actual DTW prices in a State defined zone to the DTW Gas Cap for that zone to properly measure compliance.

ICF additionally recommends that this system be developed to enable the PUC to store all transaction data for each of the Parties, and to provide each Party an Access-based tool to house and send their transaction data. Each Party should also be requested to maintain a hard copy of each invoice in a specific file for Gas Cap transactions.

- Section 486H-16 of the legislation provides mechanisms to Parties to request changes to the various factors contained in the legislation based on changes in market conditions or other factors (Task I). The process recommended by ICF in

Section 486H-13 provide a mechanism to update price and freight calculations weekly, and wholesale margins, premium and midgrade margins, and zone costs annually. These recommendations mitigate the need for a portion of the requirements in 486H-16.

Regardless of the efficacy of ICF's mechanism, from time to time there may need to be changes to the underlying market cost model. This could be due to a fundamental change impacting all marketers (e.g. ethanol), or changes to the benchmark prices used in this process. Consequently, ICF recommends that Section 486H-16 continue to provide a means for parties to introduce, discuss, and modify the Gas Cap formula under evidence of a compelling need to change.

- The implementation of this legislation will represent a significant change in business operations for all of the impacted companies. It is possible that some contractual agreements between buyers and sellers may have terms that are not compatible with the Gas Cap legislation, or that some parties may feel they are competitively disadvantaged by the legislation. Many of these issues may be raised prior to the PUC decision, and others may emerge after the Gas Cap process has been in effect for a period of time.

ICF recommends that, after at least six months of operation under the Price Cap process, the PUC should examine the performance of the process, and impact on consumers and companies impacted by the legislation.

IMPACT OF GAS CAPS

Hawaii's gasoline prices are the highest in the United States for conventional gasoline. This legislation's intent is to insure that Hawaii consumers pay a market based price for gasoline, but do not pay unreasonable prices due simply to the fact that Hawaii is isolated, small, and with a concentrated group of suppliers. This legislation will primarily provide an ongoing, visible track of wholesale market pricing that has not previously existed. It further provides a cap on the marketing margin that can be realized to a level consistent with peak levels seen in other US markets for conventional gasoline.

PRICE IMPACT

ICF's estimate of the impact of the recommended Gas Caps on Hawaii's wholesale gasoline prices (based on 1999-2004 data) indicates that the Gas Caps would have reduced Oahu Wholesale Unleaded gasoline prices by about 10 cpg for DTW sales and 13 cpg for Rack classes of trade. Premium grade prices would be reduced an additional 1 – 4 cpg.

In the other zones, ICF evaluated confidential transportation and terminaling cost data. The zone adjustment factors recommended by ICF are added to the Oahu import parity and marketing margins to determine Gas Caps in each zone for each class of trade and product grade. Using August, 2004 as an example month, ICF estimates that the Gas Cap implementation would reduce wholesale unleaded prices in the other zones by 7-16 cpg for DTW sales and 5-12 cpg for Rack sales.

ICF additionally notes that evaluation of wholesale pricing practices in Hawaii indicates that the wholesale pricing does not adjust on a daily or weekly basis consistent with those classes of trade on the Mainland. This can indicate a market that is not efficient.

These changes should put Hawaii consumers on a relatively better gasoline pricing basis with the rest of the United States, however, that does not mean Hawaii consumers will see significant change in gasoline prices at the pump. The reasons for this include:

1. The wholesale Gas Caps affect wholesale prices only. While there is a good deal of competitiveness at the retail (street price) level in Hawaii, it must be recognized that retail marketers are under no obligation to lower street price if wholesale prices are reduced.
2. Hawaii's location places a premium on product prices. Wholesale product prices need to be high enough to cover the cost of freight and source gasoline price.
3. Due to logistics, geography, and scale, the cost to supply the zones outside Oahu can be high (in some cases significantly).
4. Hawaii's gasoline taxes are among the highest in the United States, averaging about 57 cpg Federal, State, and City taxes. The US average is 44 cpg, so Hawaii consumers pay about 13 cpg above the US average.³

It is inevitable that the existence of gas caps will alter the behavior of participants. Each participant in the Hawaii gasoline market will evaluate the ramifications of the gas cap on their business, and, when enacted, develop the best tactical strategies to maximize profits within the gas cap constraint.

It will be important to closely monitor the performance of this process to be able to evaluate the pros, cons, and potential enhancements needed.

REFINING IMPACT

The ramifications of the Gas Cap legislation will affect the two refiners in the State. If the refiners measure profitability based on an import parity assessment of product values, the impact will primarily be determined by the relationship between their import parity assessment and ICF's recommended methodology. This difference may not be substantial.

If the refiners view the profitability as integrated with the wholesale marketing business, the impact could be reduced profits, particularly if the Gas Cap directionally reduces the wholesale gasoline prices as indicated in the above historic analysis. In addition, refiners may be further impacted by the mandated ethanol legislation in 2006, which could require refiners to reduce gasoline production to manage supply. These two changes may push Hawaii's refiners to closely examine refinery profitability and sustainability.

ICF believes that it is important to Hawaii's long term energy security that these two refineries be financially sound. A decision to close one of the refineries due to a low return on investment would significantly increase Hawaii's dependence on imported products, including gasoline, diesel, residuals, and jet fuel, directionally raise prices and require additional inventory for contingency supply. ICF anticipates that both refiners will

³ American Petroleum Institute 204 summary of State-by-State Taxes, www.api-ec.api.org/filelibrary/MotorFuelTaxes.pdf.

carefully review both these and the final PUC decisions to assess the potential impact on refinery financial performance.

WHOLESALE MARKETER IMPACT

Wholesale marketers who buy product on a bulk basis from refiners, or refiners who market on a wholesale basis, are likely to see the greatest impact from the Gas Cap legislation. The Gas Caps will limit the price they can secure from customers on a DTW and Rack price basis. Based on the historical analysis, these could be substantial differences in revenue for these marketers (although the impact of Gas Caps appeared less based on 2004 data). The potential compression of margins may stimulate cost reduction activity among some of these marketers to help restore more historic margin levels.

Marketers who buy product on a Rack basis, and resell to service stations will see their cost of product (i.e. the price they pay) regulated to within a given wholesale cap, depending on zone and gasoline grade. When the marketers resell the product to service stations, or other resellers, they will be required to sell within the stated gas cap in the impacted zone. The specific impact on every jobber and distributor is difficult to quantify, other than, as with the refiners, their day to day business management will be conducted under the umbrella of the Gas Cap legislation.

The specific impact will be driven by the marketer's ability to resell the gasoline purchased to retail stations and cover the cost of delivery and business operations. There may be some unique situations (similar to Hana on Maui) in which small jobbers or distributors have few outlets which are in a high-cost-to-deliver regions, and the PUC may wish to consider some exceptions or further adjustments.

Overall, the Gas Caps are structured so that sales at or approaching a DTW cap should provide a margin to cover a purchase at wholesale rack prices plus delivery cost, and profit.

OTHER IMPACTS

Competitive Pressure: The existence of Gas Caps should cause refiners, suppliers and marketers to refocus on methods to improve Hawaii's petroleum supply chain cost structure. The market's relative insulation from competitive pressures seen in many Mainland locations may have historically inhibited cost reduction initiatives.

A true free market for gasoline in Hawaii would be evidenced by wholesaler marketers using price to gain market share versus competitors, and arranging additional supply by economic purchases, similar to Mainland locations. The barriers to those economic purchases (which in Hawaii mean imports) are substantial, and are not mitigated by the Gas Cap legislation.

Supply Impacts: While the Legislature's desire to achieve competitive, market based gasoline price caps is much better than simply establishing a hard price cap, the Gas Cap legislation is still a disruption to the free market system. The mechanism proposed herein by the Legislature, and with ICF's recommendations to the PUC, attempts to minimize those disruptions. There will however, be situations where the gasoline price rises in the Caribbean, or Singapore markets due to events local to those markets which

could impact Hawaii consumers due to the formula. Or, outages at Hawaii refineries may locally affect Hawaii supply and inventory, but the Gas Cap would not change because Hawaii's problem likely will not impact the Caribbean, USGC or Singapore markets. More critically, if imports are needed to make up the lost volume, the inability to raise prices beyond the gas cap may blunt economic replenishment, and jeopardize supply.

Ethanol: The Hawaii gasoline market will change in 2006 as the ethanol legislation is implemented. The use of up to 10% ethanol in 85% of Hawaii's gasoline supply creates an immediate change in the State gasoline supply and demand by increasing the supply of gasoline. It will also likely result in higher costs for all suppliers to alter the distribution system to accommodate the ethanol blending and preserve gasoline quality integrity.

Since it is unlikely that the use of ethanol in Hawaii will impact either the Singapore or Caribbean markets, the Import Parity calculation will likely not be impacted. Other changes however may be necessary to account for higher terminal and marketing costs. Notwithstanding the formula changes, the fundamental supply and demand situation in Hawaii post-ethanol blending could likely depress prices as suppliers work to rebalance and optimize their systems.

The implications of the Gas Cap formula on Suppliers plans for ethanol implementation and management should be evaluated by the Commission.

Business Perception: As noted in the Stillwater report, and other reports (NCSL⁴, etc), the implementation of price controls on commodities can create a perception of an anti-business climate in Hawaii.

⁴ National Council of State Legislators; *Findings on Hawaii Gasoline Prices and Policies*, April, 2003

EXHIBIT ES-1: OVERALL HAWAII GAS CAP PRICE DETERMINATION PROCESS

Overall Hawaii Gas Cap Price Determination Process

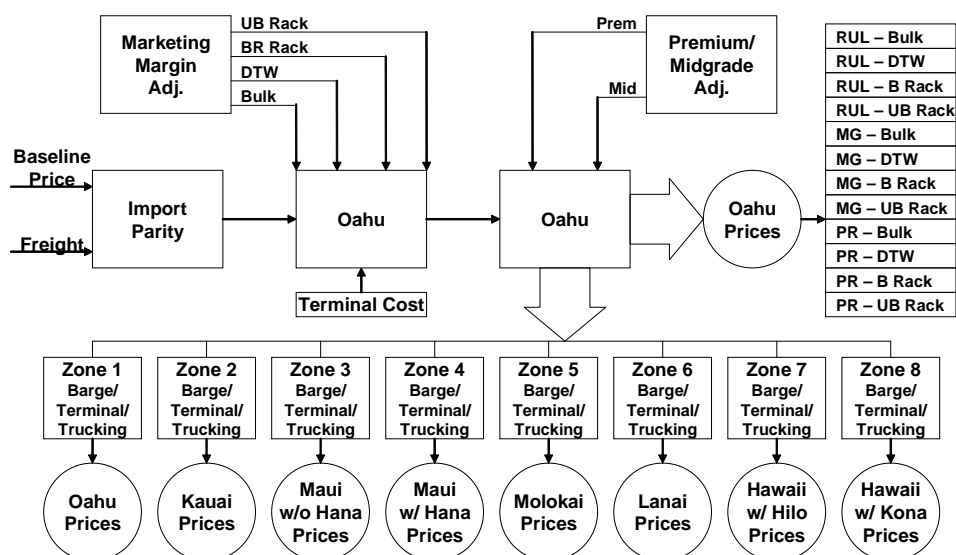


EXHIBIT ES-2: SUMMARY TABLE WITH ICF RECOMMENDED ADJUSTMENT FACTORS FOR 2005

| | Class of Trade | | | |
|---|----------------|--------------|----------------|------|
| | DTW (All) | Rack Branded | Rack Unbranded | Bulk |
| Market Adjustment | | | | |
| Marketing Margin | 15.0 | 6.7 | 9.7 | 1.0 |
| Premium Factor | 10.0 | 9.0 | 9.0 | 6.0 |
| Midgrade Factor | 6.5 | 4.2 | 4.2 | 2.0 |
| Zone Adjustment | | | | |
| Oahu | 2.2 | 2.2 | 2.2 | 2.2 |
| Kauai | 11.4 | 9.9 | 9.9 | 9.9 |
| Maui | 9.8 | 9.7 | 9.7 | 9.7 |
| Maui-Hana | 28.4 | N/A | N/A | N/A |
| Molokai | 31.2 | N/A | N/A | N/A |
| Lanai | 40.3 | N/A | N/A | N/A |
| Hawaii-Hilo | 13.2 | 11.1 | 11.1 | 11.1 |
| Hawaii-Kona | 16 | 11.4 | 11.4 | 11.4 |
| Example Calculations (IP= Import Parity) | | | | |
| Kauai Premium DTW = IP + 15.0 + 10.0 + 11.4 = IP + 36.4 | | | | |
| Maui RUL Branded = IP + 6.7 + 9.7 = IP + 16.4 | | | | |
| N/A: Class of trade not provided in the zone. | | | | |

1.0 INTRODUCTION TO HAWAII GASOLINE MARKET

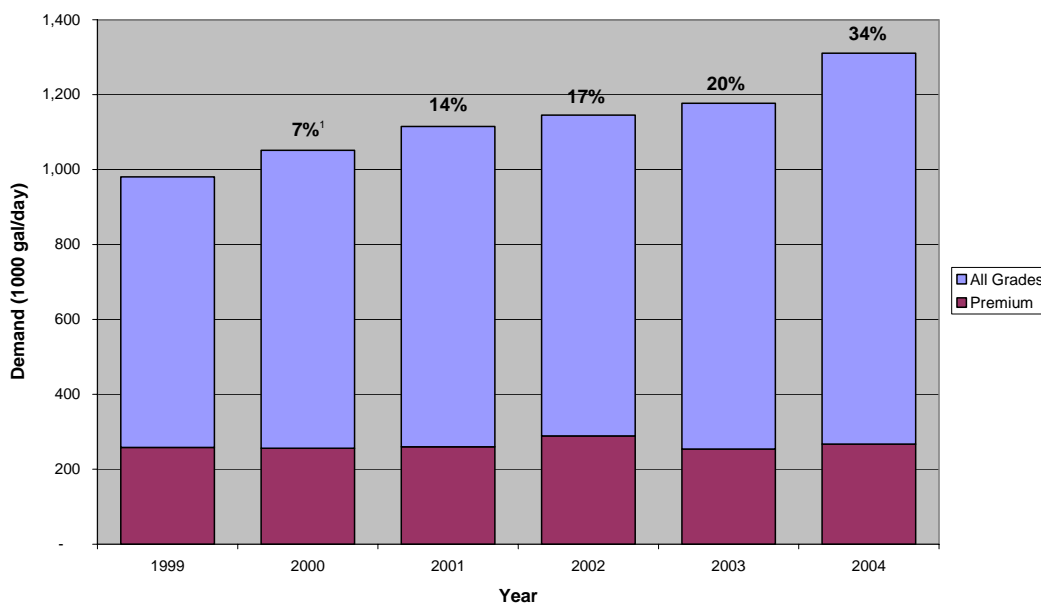
1.1 Overview

The Hawaii gasoline market was evaluated in significant detail in 2003 by the Hawaii Department of Economics, Business Development, and Tourism (DBEDT) through the Stillwater study and other studies. ICF's primary focus in our study for the Public Utilities Commission (PUC) is to evaluate and recommend changes to the Gas Cap legislation to insure that the Gas Caps reflect true competitive market conditions. In order to do this, a brief summary of Hawaii's gasoline market is appropriate.

1.2 Gasoline Supply and Demand

Exhibit 1.1 shows that Hawaii's total gasoline sales have been increasing at about 6 % per year from 1999. The sales increment has been primarily regular unleaded gasoline, as Premium and Midgrade sales have been stable.

EXHIBIT 1.1: HAWAII GASOLINE DEMAND



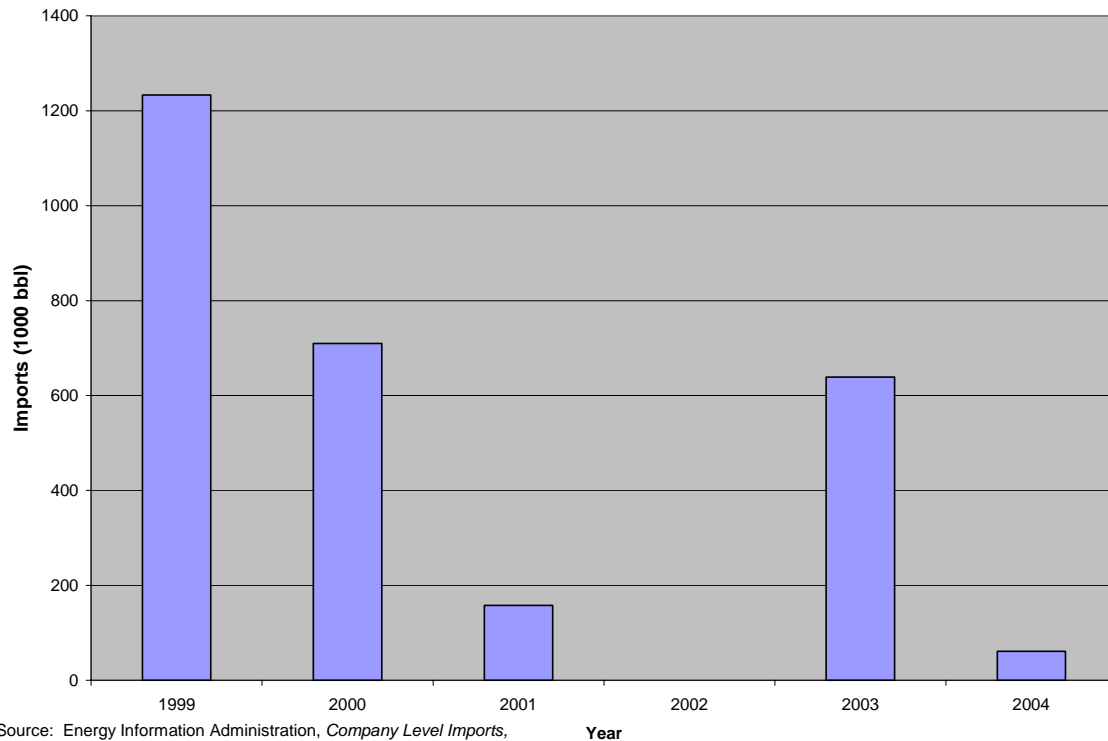
¹ Percent increase in total gasoline sales from 1999.
Source: EIA. *Petroleum Marketing Annual*, various issues

Hawaii's gasoline demands have been met primarily by the two refineries on Hawaii, ChevronTexaco's 54 MBD refinery, and Tesoro's 94 MBD refinery, both located at Barber's Point on Oahu. Refinery gasoline production in general meets Hawaii's demands, and imported gasoline cargoes have periodically occurred in the past either to cover periods of refinery maintenance, or to create marketing growth opportunities for wholesale marketers.

Hawaii's gasoline import levels (See Exhibit 1.2) were greater in the 1999-2001 period, as Aloha Petroleum arranged imports to support marketing growth. These imports have

fallen off in recent years as Aloha arranged refiner supply on Oahu at favorable terms. Consequently, Hawaii's gasoline supply/demand has been roughly balanced.

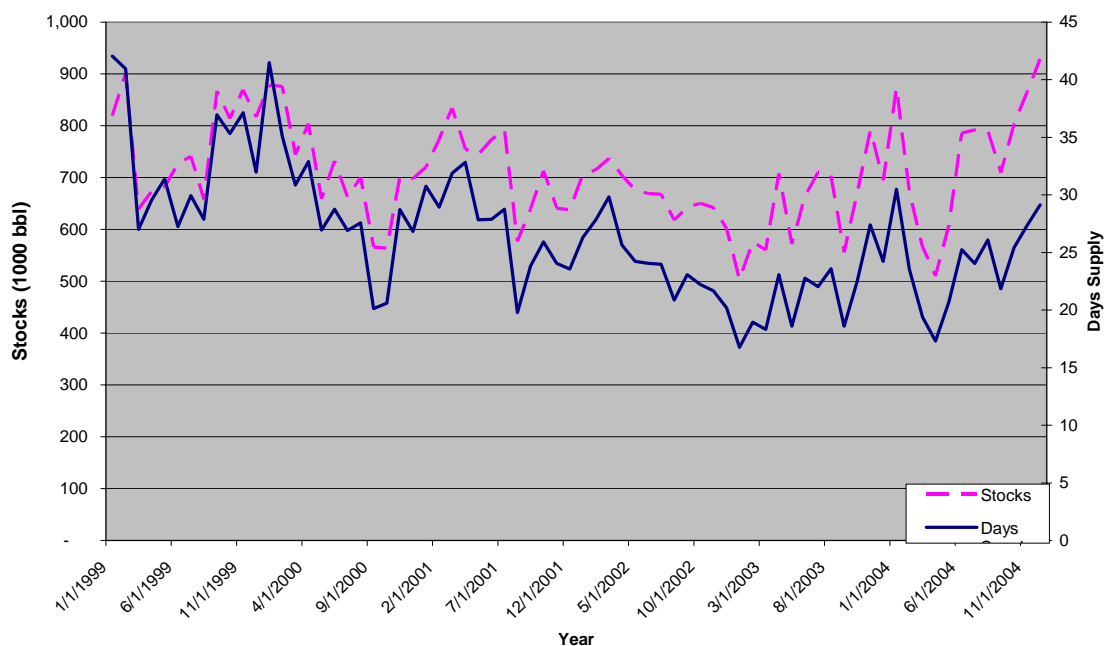
EXHIBIT 1.2: HAWAII GASOLINE IMPORTS



1.3 Inventory Management

Exhibit 1.3 shows Hawaii's historical gasoline inventory, and "days of supply" based on information from DBEDT on inventory and sales. Hawaii's days of supply of gasoline can vary from roughly 20 to 30 days. This number of days is adequate for Hawaii given that there are two local refineries capable of fully meeting State needs. However, in the event of a significant refinery disruption (in particular an unplanned shutdown), it is conceivable that supply constraints could develop quickly. The ability to arrange a cargo from either a domestic source or foreign location can take time to locate a vessel, isolate product, and of course to transit to Hawaii, and then re-transit to Outer Islands. This could take up to 4 weeks to receive additional supply from other sources.

EXHIBIT 1.3: HAWAII GASOLINE INVENTORY



Source: EIA. *Petroleum Marketing Monthly*, various issues

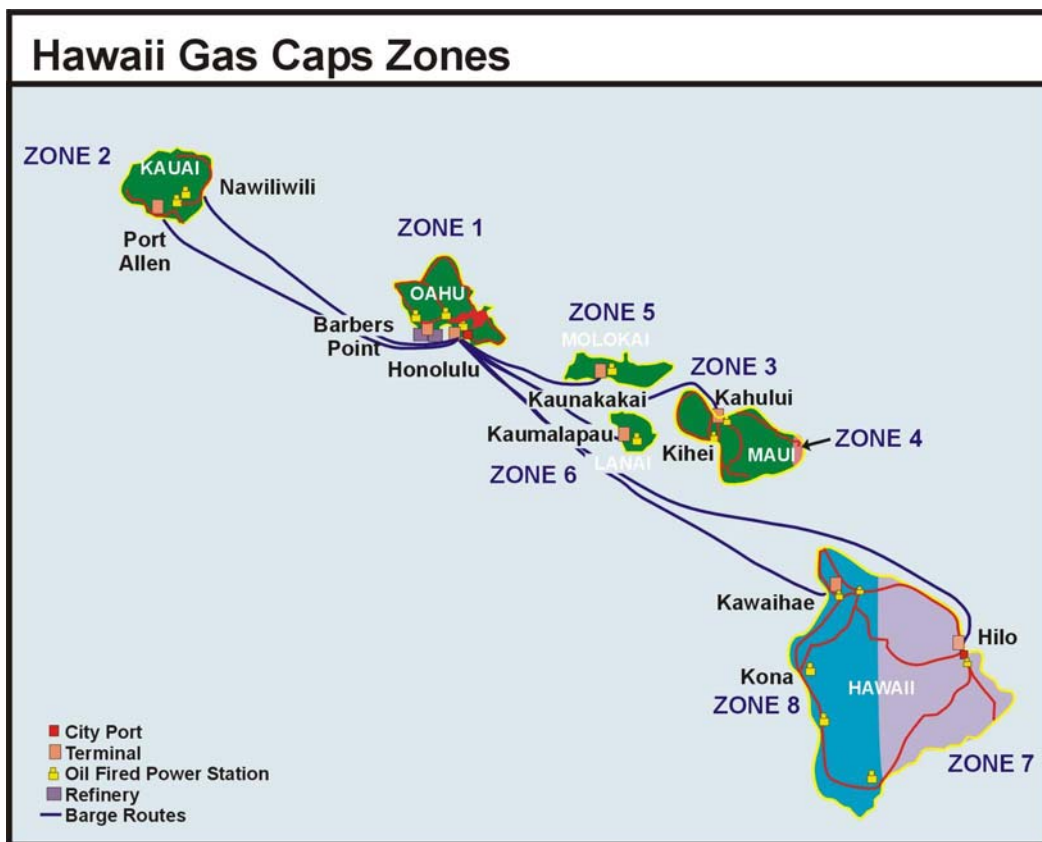
Hawaii's gasoline demands are relatively stable, and are not likely to create significant demand anomalies which might require greater inventory levels to avoid demand driven outages.

1.4 Bulk Gasoline Distribution & Logistics

The geography of the State creates a petroleum supply base very dependent upon waterborne movements of product from Oahu. Exhibit 1.4 shows the geographical layout with a delineation of the proposed Gas Cap zones in 486H-13i. A fundamental supply issue for the Hawaii infrastructure is the relatively small demand level for gasoline in the non-Oahu zones, and the cost of moving small barges of product into terminals that are also relatively small compared to Mainland terminals.

This situation can result in higher costs per gallon of sales for terminal operations and barging in the outer zones than may be typical in mainland locations.

EXHIBIT 1.4: HAWAII GAS CAPS ZONES



1.5 Marketing Overview

The marketing of gasoline in Hawaii involves the sale of product directly to end users (Retail), delivered into service stations (Branded or Unbranded), and to resellers's FOB a terminal rack (Branded or Unbranded). Gasoline is also sold Bulk FOB refineries on Oahu or terminals in the outer zones.

With supply and demand roughly balanced in Hawaii, and sources of incremental gasoline supply so far removed from the State, the ability of any marketer to increase market share by price competitiveness is very limited. On the Mainland, a wholesale marketer could be more price competitive (i.e. lower prices) and increase market share. Additional supply could be promptly purchased in the spot market, and the marketer would have a good knowledge of his delivered cost of supply and timing to terminals.

In Hawaii, the marketer seeking to grow volume is typically bound by the isolation of the State. Ability to grow is dependent upon either getting another existing supplier to provide volume (jeopardizing the other supplier's ability to satisfy his demands), or by arranging imports. For imports to be economic, it is necessary to import cargoes of significant size to minimize freight costs. This creates both logistical issues for most marketers, as well as significant price risk, since it may take an extended period for the importer to market the full cargo volume.

Retail marketers can face similar issues if interested in increasing market share to increase earnings.

This situation creates an environment in which the status quo tends to be maintained. The net impact on Hawaii consumers is a gasoline market without competitive pressure to minimize cost and maximize sales among suppliers.

1.6 ICF General Approach to the 486H-13 Legislation on the Hawaii Gasoline Price

In order to assess the effectiveness of the Legislation to deliver a market based gasoline cap for Hawaii, ICF's analysis focused on each of the steps in the chain of supply of gasoline. The components of the chain, as outlined in the legislation, were examined to validate or enhance factors or assumptions detailed in the Legislation. In addition, ICF utilized Mainland and global benchmarks on prices and margins where appropriate, as well as cost data from Hawaii parties to reflect unique cost and scale issues of logistics in Hawaii. The following sections review each of the Gas Cap formula tasks in detail.

2.0 BASELINE PRICE AND LOCATION ADJUSTMENT (TASK A AND B)

2.1 Overview

The PUC has asked that ICF examine the effect, impact and appropriateness of the baseline price under HRS § 486H-13(c) to evaluate the methodology proposed in the enacted legislation for calculating a competitive import parity price for gasoline into Oahu. The legislation as enacted (486H-13c) shows a calculation based on the average of the NYH (New York Harbor) published OPIS (Oil Price Information Service) “spot”, USGC (US Gulf Coast) OPIS “spot”, and the Los Angeles OPIS “spot” as the source price for gasoline. The PUC also asked ICF to examine the effect, impact, and appropriateness of the location adjustment factor (HRS § 486H-13(d)) that provides that a 4 cents per gallon (cpg) transportation differential be added to arrive at an Oahu baseline price.

2.2 Observations and Findings: Pricing

2.2.1 Baseline (Source) Price

OPIS publishes a number of gasoline prices. The legislation is not clear as to whether the price published is a pipeline price, rack price, or cargo price, nor does it clarify whether the gasoline quote is for conventional or reformulated gasoline.

In addition, the actual gasoline quality used for price quotes in OPIS and other publications and reporting services will differ somewhat from Hawaii grade gasoline at various times of the year. ICF elected to identify and use a basket of OPIS pipeline gasoline prices for conventional gasoline in the three markets identified in the legislation: New York Harbor, US Gulf Coast, and Los Angeles.

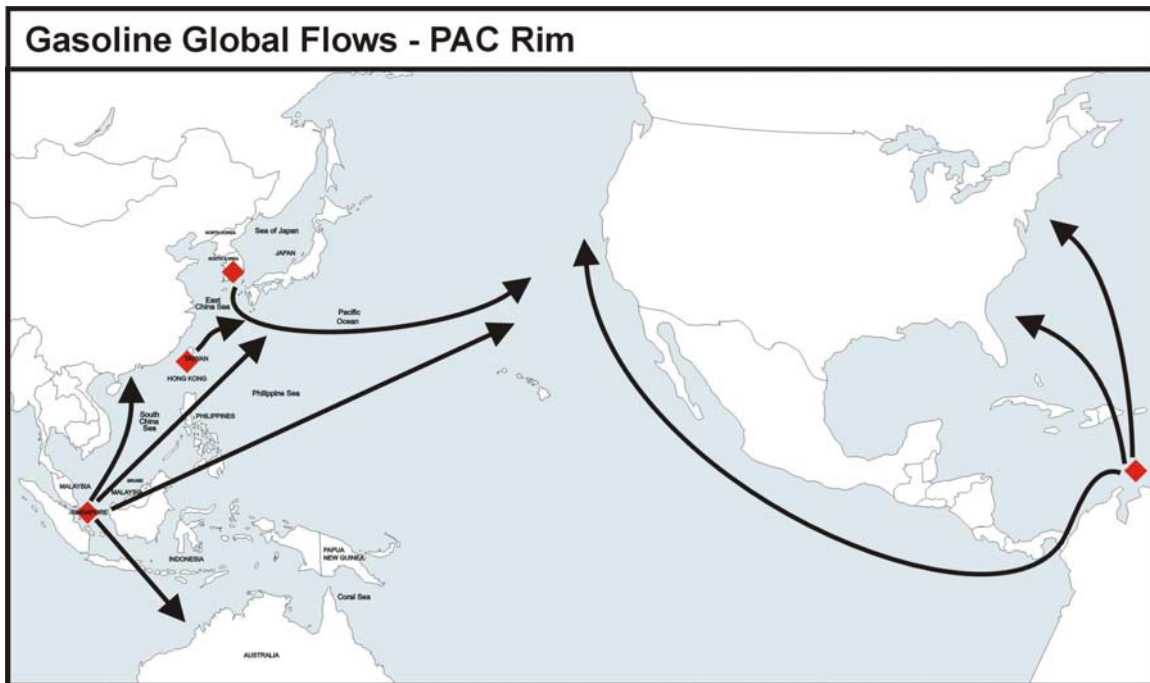
While these prices are transparent (i.e. they are readily visible and are prices at which transactions occur), the reality is that the United States (US) is importing about 1 million barrels per day of gasoline to meet Mainland requirements. Most of these imports are delivered into Florida, the US East Coast, and the US West Coast. While the OPIS prices are usable from a calculation perspective, realistically there is little if any likelihood that cargoes would ever move from any of those sources into Hawaii (indeed none have). Therefore, they do not represent a true alternative, or market source for gasoline for Hawaii.

Use of these prices is, in our opinion, inconsistent with the intent of the legislation to use competitive market prices.

2.2.2 Source Alternatives

Alternative sources which are reasonable fits include the Far East and the Caribbean. Singapore, Korea and Taiwan all export gasoline, with some moving to the USWC. Venezuela and refiners in the Caribbean are the primary importers into the USEC, and have also moved gasoline into the USWC when economics justify. (See Exhibit 2.1)

EXHIBIT 2.1: GASOLINE GLOBAL FLOWS



To evaluate alternative baselines appropriately, ICF is recommending using prices quoted by Platt's rather than OPIS. Both are reputable price data companies, however Platt's pricing is used as a basis for transactions in both the US and markets around the world, including commodities, fuels, and freight, where OPIS's primary strength is in the US market.

The prices quoted by Platt's for the Far East are the most reliable in the very liquid and commercial market in Singapore, while prices in Korea and Taiwan are less transparent. Korea and Taiwan cargo sales are often priced based on the Singapore Platt's quoted prices (plus or minus a differential), and can also be priced on a "netback" basis (this means the cargo is priced based on the gasoline price at the destination, less freight cost).

Gasoline produced in Singapore, Taiwan, and Korea can have quality characteristics which do not fully align with US or Hawaii conventional gasoline (See Exhibit 2.2). The difference in quality characteristics can be offsetting. Hawaii has lower Midgrade octane quality, and higher average gasoline vapor pressure, both which tend to reduce the relative cost of gasoline. Hawaii also has a lower gasoline sulfur content, which can tend to increase the cost to produce gasoline. ICF believes that the net effect of these quality anomalies is reasonably small, and that refiners in this region could supply gasoline for shipment to Hawaii at pricing that mirrors the Platt's Singapore price quotes.

EXHIBIT 2.2: US CONVENTIONAL GASOLINE VS. SINGAPORE

| | HAWAII | SINGAPORE |
|---------------|---------------|------------------|
| Octane (Road) | 87 | 87 (92 RON) |
| Sulfur, ppm | 300 | 1000 |
| Benzene, ppm | 1 | 5 |
| RVP, psig | 11.5 | 10 |

In the Caribbean, cargoes of gasoline exported to Florida compete with gasoline produced in US Gulf Coast refineries and barged into Florida, and at times with gasoline moved from Europe. Caribbean refiners and traders have indicated to ICF that their goal is to achieve prices from Caribbean refineries “at or near” the Platt’s USGC waterborne price posting, and that cargoes can and have moved to the West Coast when economics dictate. ICF believes that Hawaii could be a reasonably competitive disposition for Caribbean volume. ICF has estimated for this study that gasoline sourced out of the Caribbean should be evaluated using the USGC Platt’s waterborne price less 1 cpg to recognize the trading competition.

2.2.3 Recommendations: Source Price

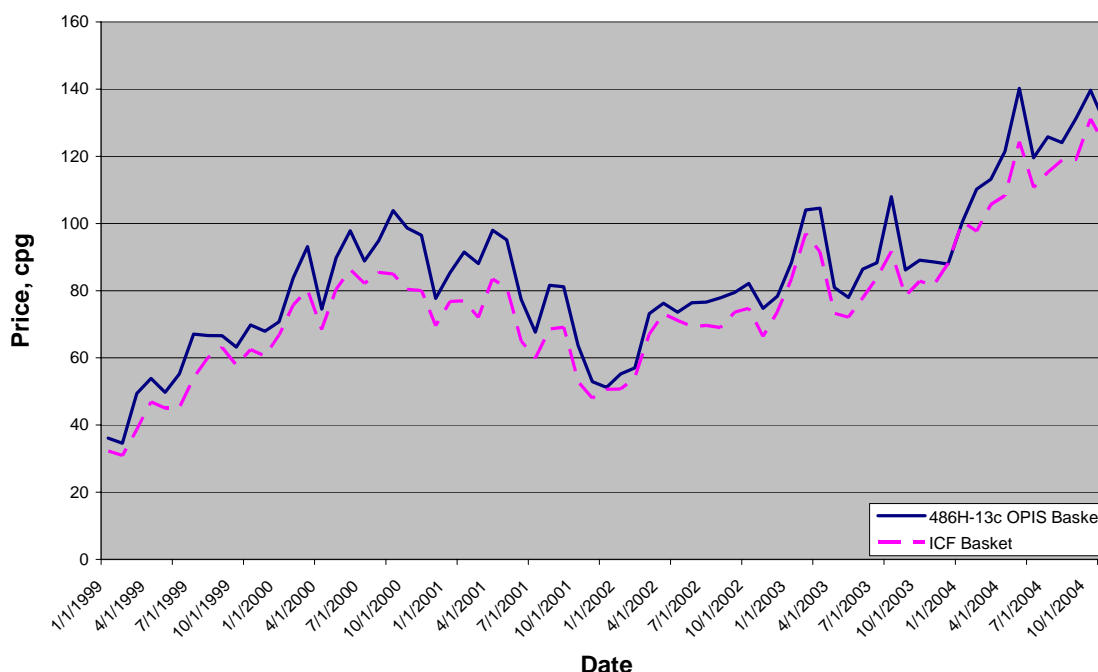
Both the Caribbean and Singapore markets have an ongoing gasoline exporting business and represent likely potential sources of gasoline into Hawaii. Historical data indicate that gasoline sourced from the Far East would be delivered cheaper into Hawaii than the Caribbean; however ICF believes it is prudent to utilize a basket of Caribbean and Singapore based gasoline as an alternative to the legislative recommendation. Growth in demand for oil products in the Far East (China, India, etc), and reduction in gasoline demand in Europe (more diesel automobiles) may create changes in historical pricing patterns.

Use of the ICF proposed basket would result in a baseline price for gasoline about 8.5 cpg lower than the recommended legislation based on 1999-2004 data. (See Exhibit 2.3 and 2.4)

EXHIBIT 2.3: BASELINE SOURCE UNLEADED PRICE DATA, CPG

| | 486H-13C (1) | ICF BASKET (2) | SINGAPORE | CARIBBEAN |
|--|---------------------|-----------------------|------------------|------------------|
| 1999 | 56.7 | 49.7 | 48.1 | 51.4 |
| 2000 | 89.2 | 78.3 | 74.0 | 82.7 |
| 2001 | 77.8 | 67.0 | 61.0 | 73.0 |
| 2002 | 73.4 | 67.7 | 63.9 | 71.5 |
| 2003 | 90.9 | 83.5 | 80.2 | 86.7 |
| 2004 | 123.3 | 114.1 | 110.4 | 117.7 |
| AVG | 84.7 | 76.2 | 72.4 | 80.0 |
| (1) 87 Rd RUL conventional gasoline, OPIS data for NYH, USGC, LA | | | | |
| (2) Platt’s Singapore 92 RON (87 Rd); Platt’s USGC 87 Rd, less 1 cpg | | | | |

EXHIBIT 2.4: SOURCE PRICE



2.3 Observations and Findings: Freight (Location Adjustment)

ICF believes the legislation recommended a 4 cpg location adjustment to reflect transportation costs from NYH, USGC, and LA into Hawaii. This number is extraordinarily low compared to the costs that ICF has determined for these voyages. Moreover, the freight market can be volatile and represent a real factor in import parity price. A mechanism which does not incorporate the prevailing freight market in the Gas Cap formula, or assumes it is constant, would not accurately reflect competitive market conditions.

In evaluating the suitability of a 4 cpg location adjustment for gasoline movement from the 3 baseline sources proposed in the legislation, it is important to recognize that product between US Ports must move on US Flag vessels. Historically, these vessels command a significant premium over Foreign Flag ships. The average cost to move gasoline from the US Gulf Coast to Los Angeles from 2000 through 2004 was almost 10 cpg, based on ICF discussions with Marine consulting groups, and obviously the cost to move to Hawaii would be even higher due to the greater distance (See Exhibit 2.5). These cost estimates are not published information and have to be obtained from companies who arrange charters on Jones Act vessels and maintain a freight market history. ICF estimates that the cost to move gasoline from the US Ports in the proposed legislation to Hawaii would have ranged from 9 to 14 cpg compared to the 4 cpg proposed by the Legislature.

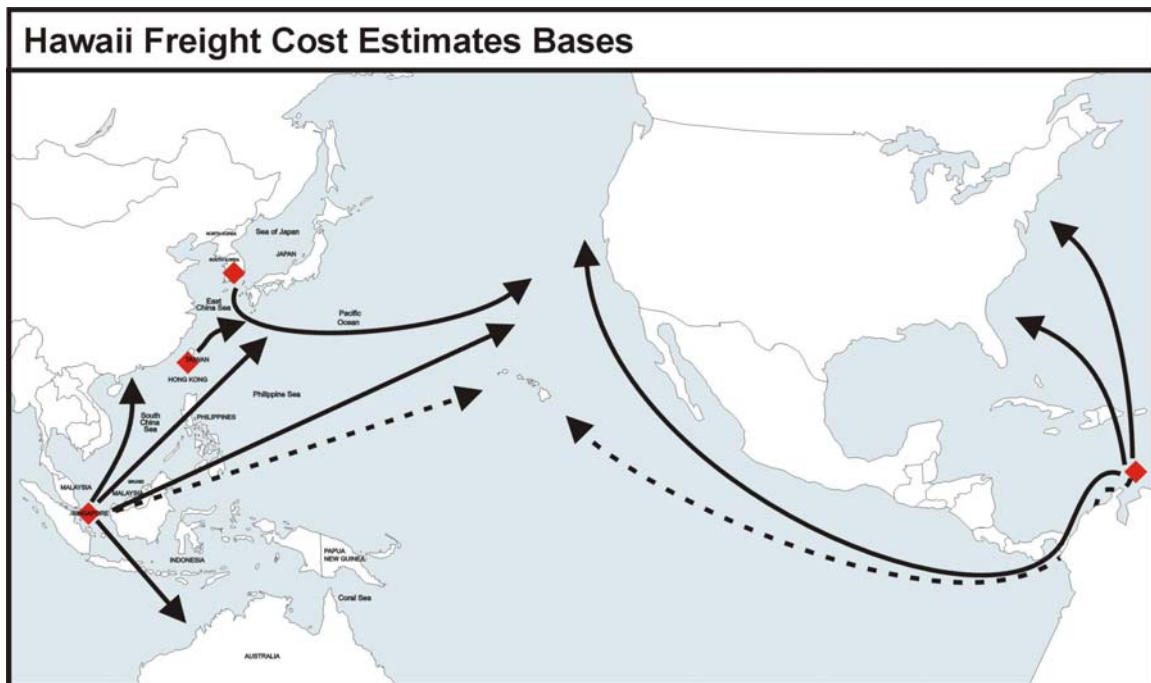
EXHIBIT 2.5: FREIGHT COST TO HAWAII FROM US , CPG

| | USGC to LA (1) | Adjust to Hawaii (2) | Estimated Cost to Hawaii | 486-13 (d) |
|--|----------------|----------------------|--------------------------|------------|
| 2000 | 10.00 | 0.50 | 10.50 | 4.00 |
| 2001 | 10.75 | 0.50 | 11.25 | 4.00 |
| 2002 | 9.00 | 0.40 | 9.40 | 4.00 |
| 2003 | 10.90 | 0.50 | 11.40 | 4.00 |
| 2004 | 13.30 | 0.60 | 13.90 | 4.00 |
| (1) Estimated history from Marine Charter companies, Jones Act vessels, 30 MDWT | | | | |
| (2) Adjusted based on incremental days travel at 14 knots from USGC, LA, NYH to Honolulu | | | | |

Companies moving product on Foreign Flag vessels into US ports typically have a cost advantage versus US Flag vessels. Platt's publishes freight rate information on Foreign Flag product vessels from Singapore, Korea and Japan into the USWC, and on vessels moving product from Caribbean ports into the US Gulf, East Coast, and West Coast.

Since there are minimal historic movements of gasoline into Hawaii, ICF has estimated Hawaii freight costs based on a relationship between the published Platt's freight and Worldscale assessments, and by adjusting the cost to reflect estimated trip times of those routes with the route time into Honolulu. These estimates may be slightly conservative (i.e., low) due to the fact that there is limited ability to load other products on these vessels when they leave Hawaii to optimize the vessel utilization, but it provides a good mechanism to estimate freight costs into Hawaii

EXHIBIT 2.6: HAWAII FREIGHT COST ESTIMATES BASES



Freight costs used in Task B incorporate a Panama Canal fee for Caribbean volumes, a 0.5% loss figure for in-transit losses, a 0.15% cost for cargo insurance, and a 1.25 cpg

(See Exhibit 2.7) import duty cost. These assumptions are consistent with practices in the gasoline trading and shipping community when evaluating cargo economics. Some sources (US Virgin Islands, Singapore) are in free trade zones and the import duty price would not apply into US markets. However, ICF is incorporating this factor based on the uncertainty of exactly where imported volume can emerge from.

EXHIBIT 2.7: FREIGHT ASSUMPTIONS TO HAWAII, 30 MT CARGO

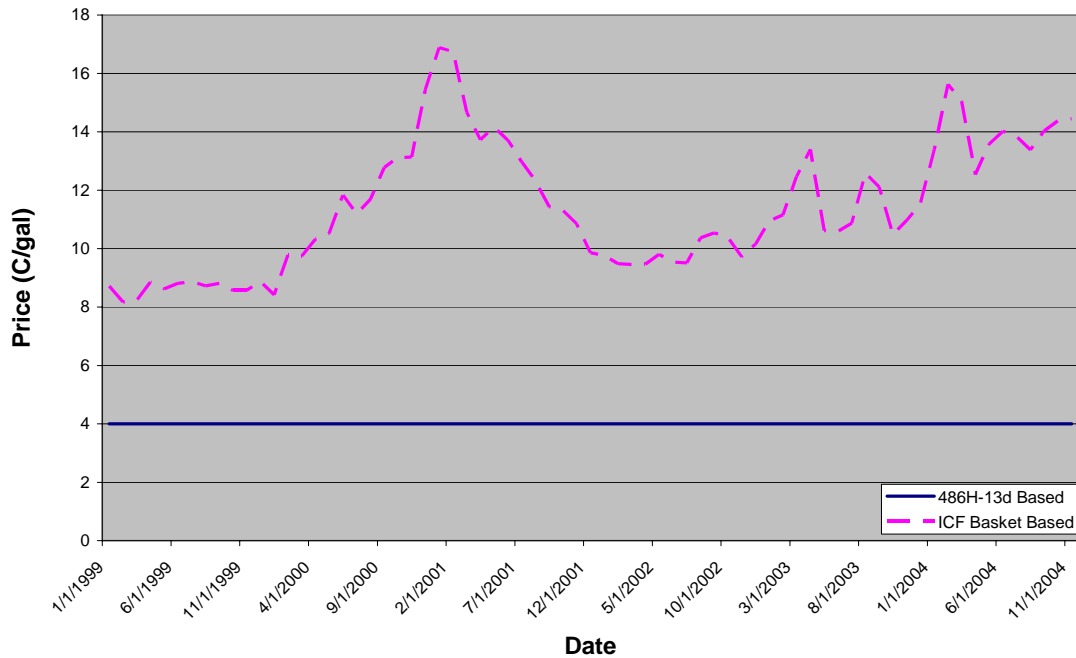
| Components | Singapore | Caribbean |
|--|------------------|------------------|
| Vessel Charter (1) | Market | Market |
| Canal Charges | N/A | 2.15 cpg |
| Cargo Losses (2) | .5% | .5% |
| Insurance Costs (2) | .15% | .15% |
| Import Duties | 1.25 cpg | 1.25 cpg |
| Receipt Terminal (3) | 1.00 cpg | 1.00 cpg |
| (1) Based on Platt's assessments for cargoes from the Caribbean and Singapore to the USWC, adjusted to Honolulu. (2) Percentage of cargo value (3) Terminal fee, demurrage estimates | | |

In addition, ICF included a 1 cpg cost to arrange for the storage and handling of imported gasoline cargoes (i.e., this adjustment places the imported volume "into the Hawaii market" and ready to be moved into the Oahu terminal system for either trucks for Oahu delivery, or barges for delivery to the outer zones.) The freight adjustment results in about a 7.5 cpg higher freight cost than the 4 cpg in the legislation. (See Exhibits 2.8 and 2.9)

EXHIBIT 2.8: FREIGHT COST COMPARISONS TO HAWAII, CPG

| | Singapore | Caribbean | ICF Basket | 486H-13 |
|--|------------------|------------------|-------------------|----------------|
| 1999 | 7.3 | 10.0 | 8.6 | 4.0 |
| 2000 | 10.3 | 12.7 | 11.5 | 4.0 |
| 2001 | 12.5 | 14.0 | 13.2 | 4.0 |
| 2002 | 8.6 | 11.1 | 9.9 | 4.0 |
| 2003 | 10.7 | 12.2 | 11.5 | 4.0 |
| 2004 | 11.8 | 16.2 | 14.0 | 4.0 |
| AVG. | 10.19 | 12.65 | 11.42 | 4.0 |
| NOTE: ICF Basket is Singapore/Caribbean average | | | | |

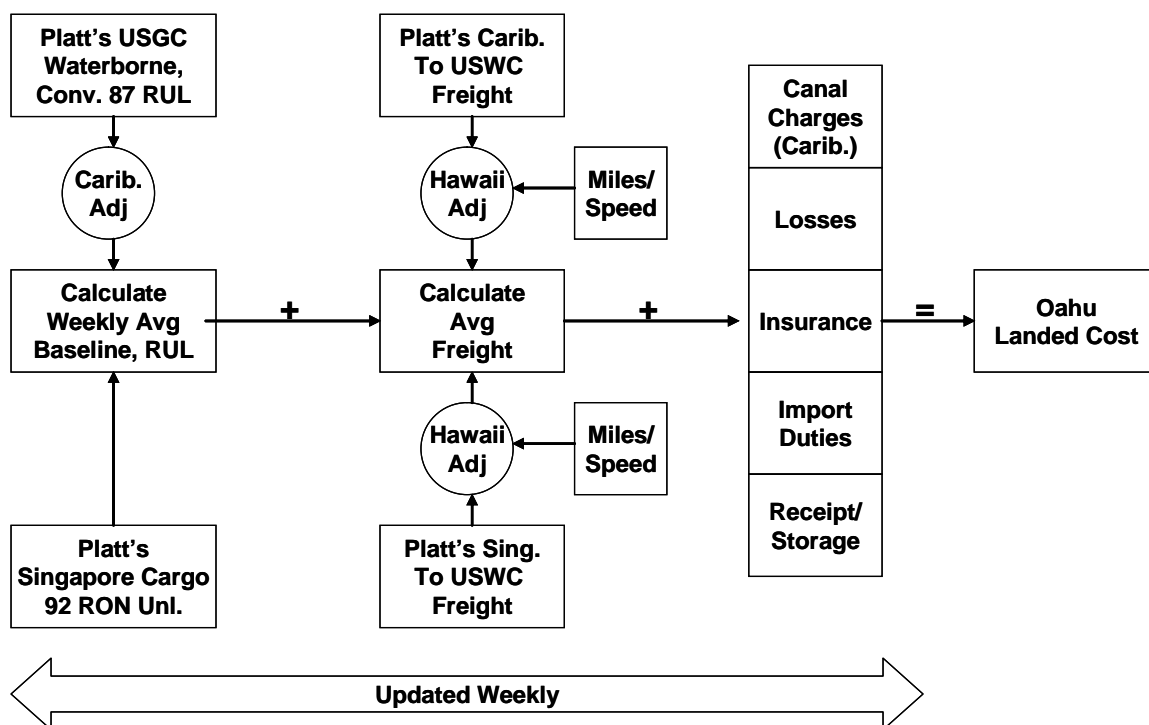
EXHIBIT 2.9: FREIGHT TO HONOLULU



2.4 Import Parity

The methodology to determine an import parity price into Hawaii requires a number of assumptions, since there is no ongoing merchant activity where product is actually imported, as described above. The intent of the legislation is to reflect competitive market conditions, which we believe can be accomplished by developing an import parity price at Oahu that best represents an ongoing evaluation of the competitive alternative value of gasoline into Hawaii, and to use that as the basis for the Gas Cap formulation. Exhibit 2.10 shows a buildup of costs to Import Parity price, including all cost and freight assumptions.

EXHIBIT 2.10: IMPORT PARITY PRICE DETERMINATION PROCESS



As noted earlier, the use of US Mainland gasoline prices as source prices for gasoline that could be imported into Hawaii is not a reasonable assumption. ICF's study has identified that gasoline sourced from the Far East would, based on history, be the most economic and logical location to deliver gasoline into Hawaii. In addition, gasoline could be sourced from the Caribbean (Venezuela, St Croix, etc), where gasoline has typically been exported to the USEC, and, on occasion, the US West Coast.

An importer would, in general, be better off by importing gasoline from the Far East rather than the Caribbean, since the LDC (Laid Down Cost) into Oahu would be higher by about 10 cpg from the Caribbean (See Exhibit 2.11). However, ICF believes that a reasonable formula for Hawaii would include both sources as a basket. The use of a basket reduces volatility, but more importantly, reflects the reality that optimal sources for imports can change. Moreover, the Caribbean refiners (and to a lesser degree Venezuela) have been reliable suppliers of US quality gasoline; Far East refiners are, in general, producing US grade gasoline on an exception basis and may require additional cost to routinely meet US product quality.

EXHIBIT 2.11: AVERAGE UNLEADED DELIVERED COST TO HONOLULU, CPG

| Year | Proposed 486H Baseline Price plus Location Adjustment | Caribbean Baseline Price plus Est. Historical Freight | Singapore Baseline Price plus Est. Historical Freight | ICF Proposed Basket Price + Est. Historical Freight (Sing/Carib) |
|---|--|--|--|---|
| 1999* | 60.70 | 61.40 | 55.40 | 58.40 |
| 2000 | 93.20 | 95.40 | 84.30 | 89.80 |
| 2001 | 81.80 | 87.00 | 73.50 | 80.30 |
| 2002 | 77.40 | 82.50 | 72.50 | 77.50 |
| 2003 | 94.90 | 98.90 | 91.00 | 94.90 |
| 2004 | 127.30 | 134.00 | 122.20 | 128.10 |
| Overall | 88.70 | 92.60 | 82.60 | 87.60 |
| * - Monthly data for the Caribbean, Singapore, and ICF Proposed Basket begins in Sept. 1999 and was extrapolated back to Jan.; 2004 through November. | | | | |

ICF's proposed use of a formula is, we believe, a balanced approach to realistic sourcing alternatives for Hawaii. Should information become available regarding transactions between Hawaii refiners and Bulk customers done on an "import parity" equivalent, ICF will review them in the context of our recommendations.

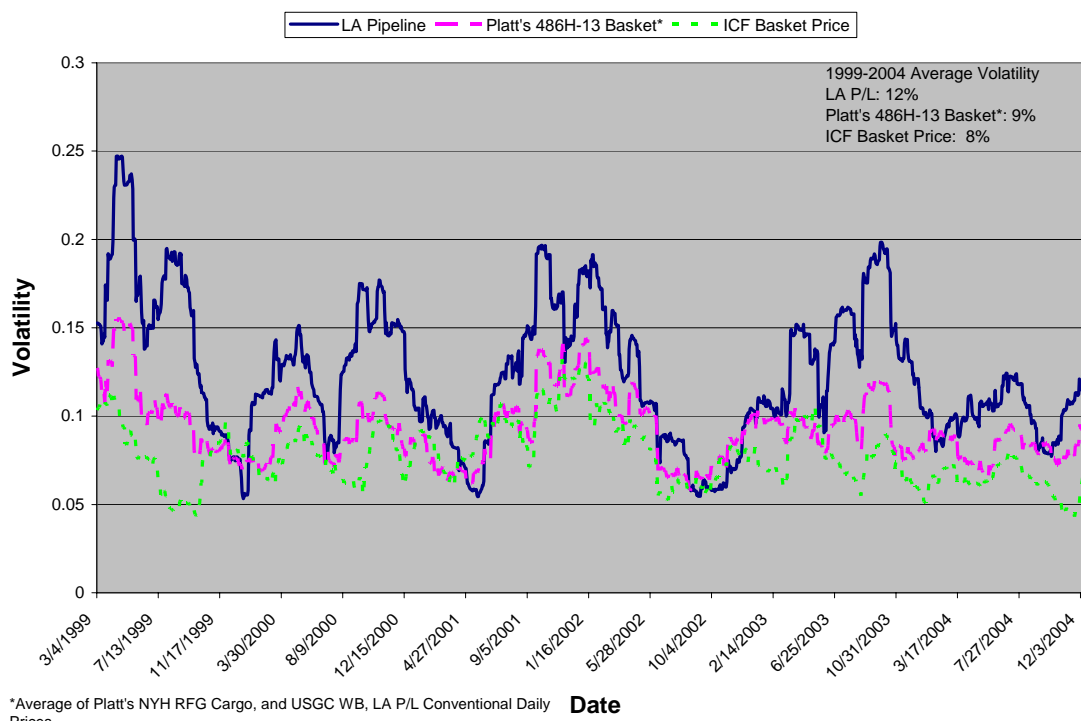
One should also keep in mind that Hawaii, while isolated and essentially balanced in gasoline supply/demand, is impacted by global markets, both in the cost of crude supply and in the price of products. The level of imports of Jet Fuel and Residual fuel is substantial, and Hawaii typically exports naphtha to other markets. The emerging growth in energy demand in Asia may likely tighten product markets there, and over time tend to impact Hawaii.

2.5 Volatility

Concerns have been expressed that the use of West Coast pricing, or other US based pricing, will expose the Hawaii consumers to excessive price volatility. Obviously it is essential to develop a methodology that minimizes exposure to volatility that does not, in reality, impact Hawaii (for example, Los Angeles gasoline pricing). However, to the degree that production of gasoline in Hawaii is tied to global crude prices; it is not unreasonable that Hawaii consumers be exposed to the same volatility as other US Mainland markets.

ICF's evaluation of the pricing alternatives indicates that volatility is minimized, though not avoided, by using a basket approach, as noted in Exhibit 2.12.

EXHIBIT 2.12: PRICE VOLATILITY

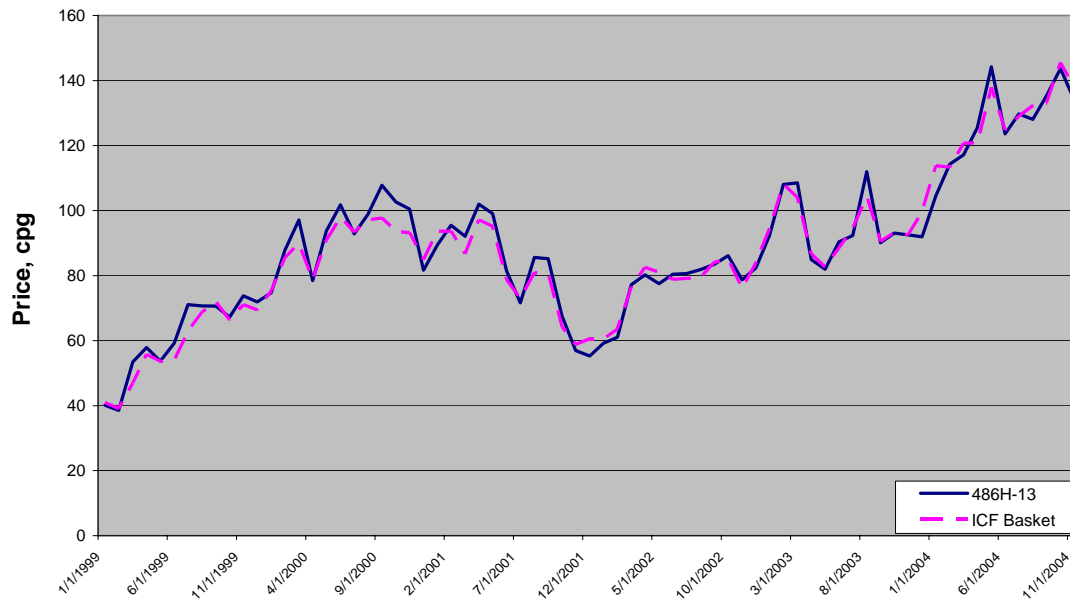


2.6 Summary Recommendations

ICF recommends that the PUC consider altering the source price formula to a basket representing Singapore Platt's gasoline price and Caribbean gasoline pricing (essentially Platt's USGC waterborne less a market differential). In addition, ICF recommends altering the 4 cpg location differential to a market based differential from each of the two recommended sources (Singapore & the Caribbean). These changes will provide a much more market-based assessment of gasoline import parity into Oahu.

Based on history from 1999-2004, (See Exhibit 2.11), these changes result in about a net 1 cpg reduction in import parity price at Oahu vs. the baseline pricing (source plus freight) in the legislation as shown in Exhibit 2.11 on the previous page. Exhibit 2.13 shows that the ICF recommended pricing basis into Oahu versus the 486H-13 (c) and (d) assumptions. While the chart shows that both ICF and the Legislature's method gave relatively similar Oahu Import Parity price over time, in order for the baseline pricing to properly align with markets, we support the determination of baseline gasoline prices and freight cost on a weekly basis.

EXHIBIT 2.13: OAHU IMPORT PARITY



3.0 MARKETING MARGINS (TASK C)

3.1 OVERVIEW

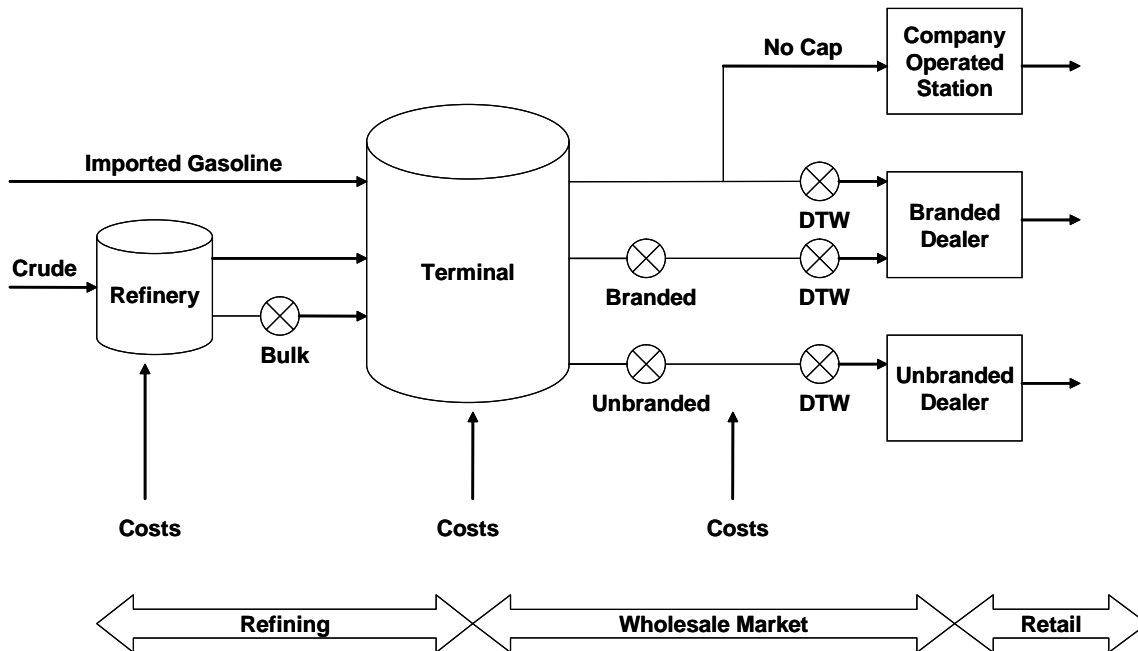
The legislation proposed an 18 cpg marketing margin for wholesale gasoline (486H-13(e)). Use of a single price is not adequate to handle the multiple levels of wholesale gasoline transactions that occur. Wholesale gasoline sales can be made on a Bulk, Rack, or Dealer Tankwagon basis. Simply put, these are Pipeline or Vessel sales (Bulk); Truck sales FOB a terminal (Rack); and Truck sales delivered to the service station (DTW). (See Exhibit 3.1)

EXHIBIT 3.1: WHOLESALE MARKETING CLASSES OF TRADE: TRANSACTION EXAMPLES

| | |
|--|--|
| Bulk Sale | Refiner sells bulk lots of gasoline to other refiners, distributors, jobbers, or commercial companies MOD: pipeline, barge, ship, in tank |
| DTW Sale | Refiner, distributor or jobber sell gasoline to Branded or Unbranded retail service station at a delivered price MOD: tanker truck |
| Branded Rack Sale | Refiner sells gasoline to a distributor or jobber FOB a terminal for resale in a branded service station MOD: terminal into tanker truck |
| Unbranded Rack Sale | Refiner sells gasoline w/o additives to a distributor or jobber FOB a terminal for resale to independent dealers MOD: terminal into tanker truck |
| Note: Branded sales contain seller's proprietary additives; MOD is method of delivery | |

The Rack and DTW sales can be categorized as either Branded (sold to a customer who resells the gasoline under the Rack sellers brand at their station), or Unbranded (sold to a customer who resells the gasoline under a different brand). Moreover, several wholesale transactions can take place in a chain, and it would be incorrect to apply a single fixed margin to each transaction. Exhibit 3.2 shows the potential wholesale marketing transaction points that occur, and demonstrate the multiple level of possible gas cap control points.

EXHIBIT 3.2: WHOLESALE GASOLINE MARKETING CONTROL POINTS



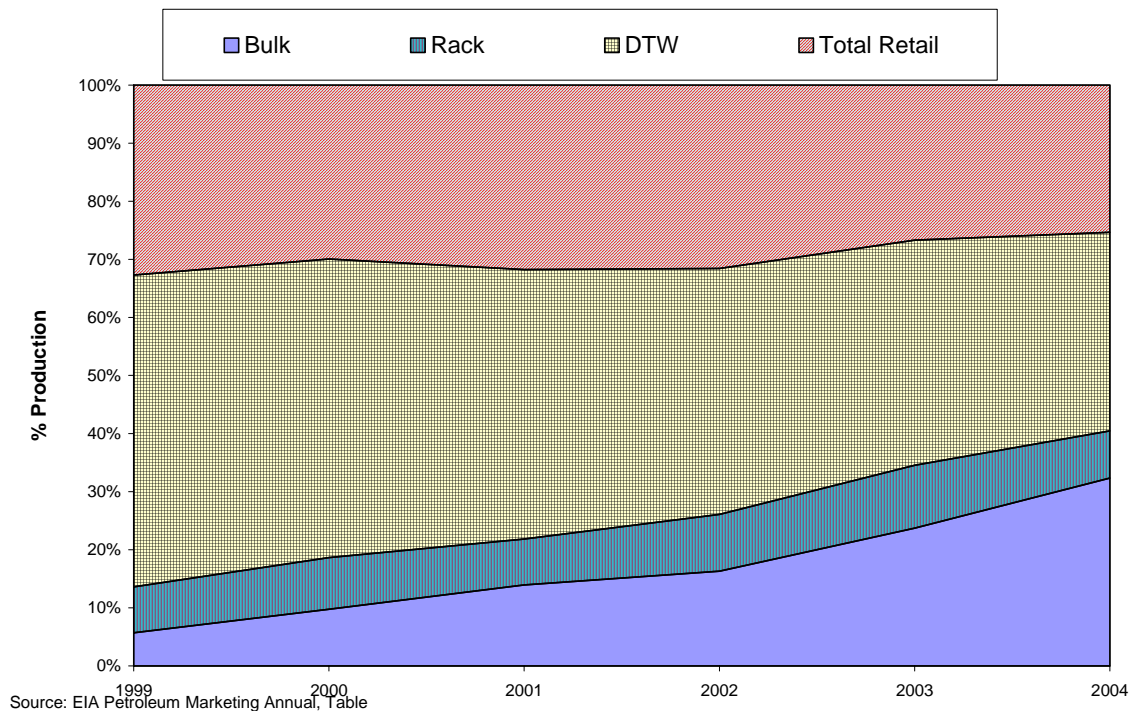
As was pointed out in Stillwater, there is no visible spot market in Hawaii. In order to determine a marketing margin, the legislature has recommended a baseline source price of gasoline plus location adjustment (freight) to Hawaii be used as the “base” price. ICF, while recommending modifications to the baseline price determination and the location adjustment (freight) assumption, agree with the Legislation’s approach. We recommend using the import parity price on Oahu, as determined by ICF’s recommendations in the previous section, as the “base” price for marketing margins.

The initial class of trade to evaluate is Bulk sales (3.2 below). The other classes of trade are the primary marketing channels that impact consumers, and will be addressed following the Bulk discussion.

3.2 BULK SALES CLASS OF TRADE

According to EIA data, Bulk sales in Hawaii have increased to about 32 percent of refinery gasoline sales in the last several years, with DTW sales at 34 percent and Rack sales at 8 percent in 2004. (See Exhibit 3.3) The Bulk sales are made to other oil companies (who do not have refineries in Hawaii), major distributors, and jobbers for reselling. The balance of sales (about 26%) is sold Retail through company owned and operated stations, or to commercial accounts.

EXHIBIT 3.3: HAWAII REFINER SALES, 1999 - 2004



The volumes that are purchased from Hawaiian refiners are (for the most part) resold to distributors or jobbers as a second level of wholesale sale.

Typically, Bulk sales are made from refineries or at major supply trading hubs, such as New York Harbor, US Gulf Coast, Singapore, the Caribbean, etc. Refiner bulk sales can be made at prevailing spot market conditions or at some premium or discount to the prevailing spot market. In general, the “margin” on Bulk sales compared to the spot market is essentially nil. Most refiners use the prevailing spot market to measure refinery profitability, since it is effectively a transition point from refinery profitability to marketing cost. In theory, a refiner could sell their entire product as Bulk sales and a Marketer purchase all their supply at a Bulk price, and measure their profitability accordingly.

For Hawaii, the “Bulk” sales measurement is the Import Parity price delivered into Oahu. In order to insure that the Bulk gasoline price (i.e. the Import Parity price) provides Hawaii refiners a reasonable gasoline margin compared to Mainland refiners, ICF compared the Import Parity baseline price in Oahu for several crudes processed in Hawaii refineries with similar quality crudes processed in the Gulf and West Coast markets. Figure 3.4 shows the gasoline to delivered crude margin for heavy, 1% sulfur Alaskan North Slope (ANS) crude in Oahu, Seattle, and Los Angeles, with the Oahu gasoline price being the recommended import parity pricing. Figure 3.5 shows the gasoline to delivered crude margin for heavy, mid sulfur Indonesian Duri crude in Oahu versus roughly similar quality Columbian Cano Limon crude into the US Gulf Coast. Figure 3.6 shows the gasoline to delivered crude margin for light, sweet Vietnam Bach Ho crude into Oahu, versus similar quality Light Louisiana sweet crude into a US Gulf Coast refinery.

EXHIBIT 3.4: 87 CONVENTIONAL UNLEADED GASOLINE VS. ANS CRUDE

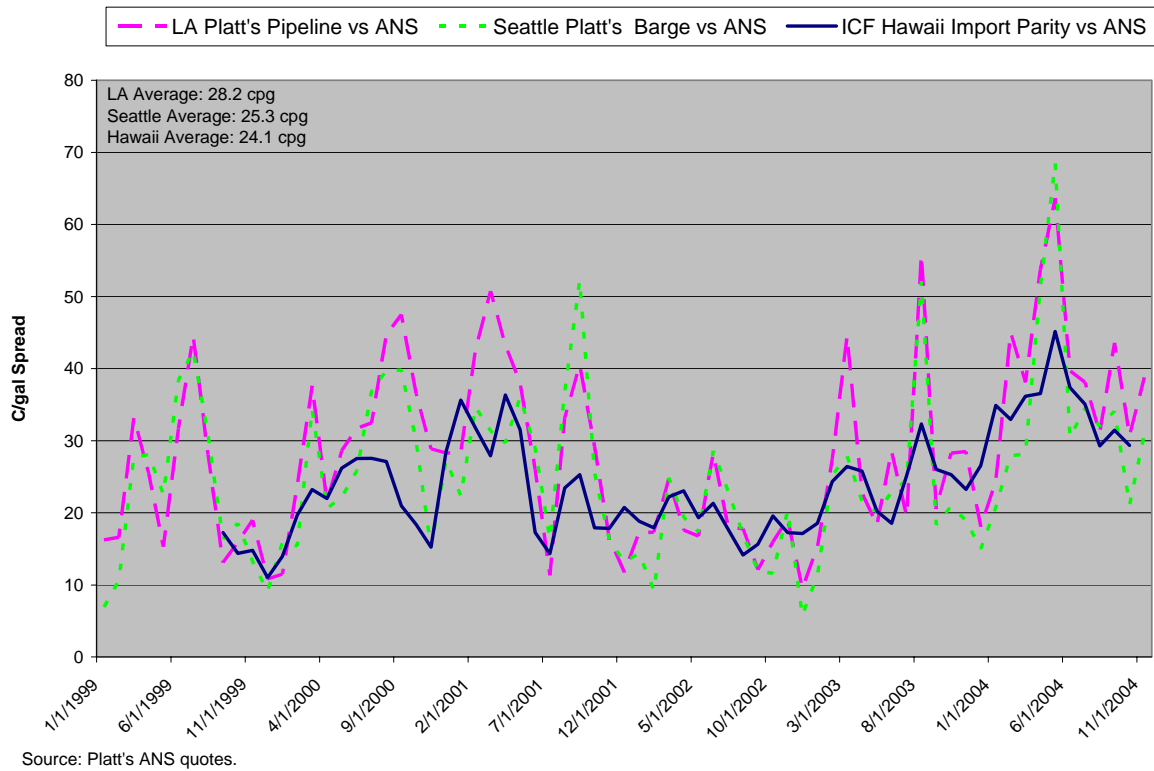
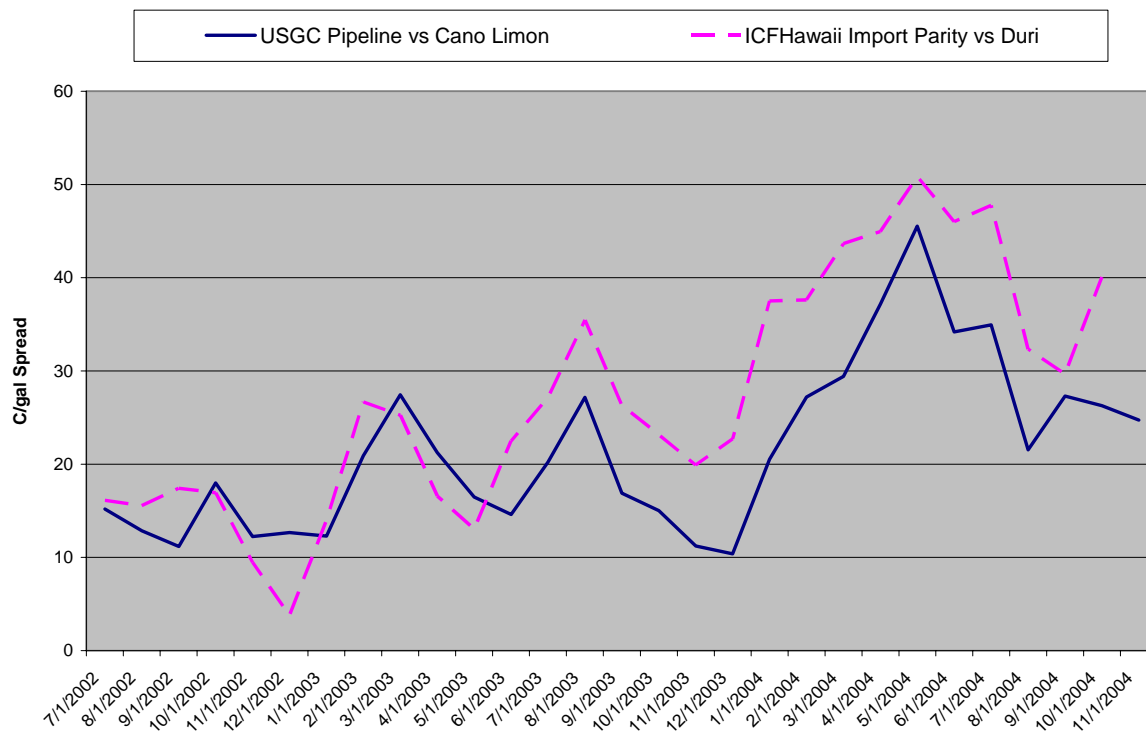
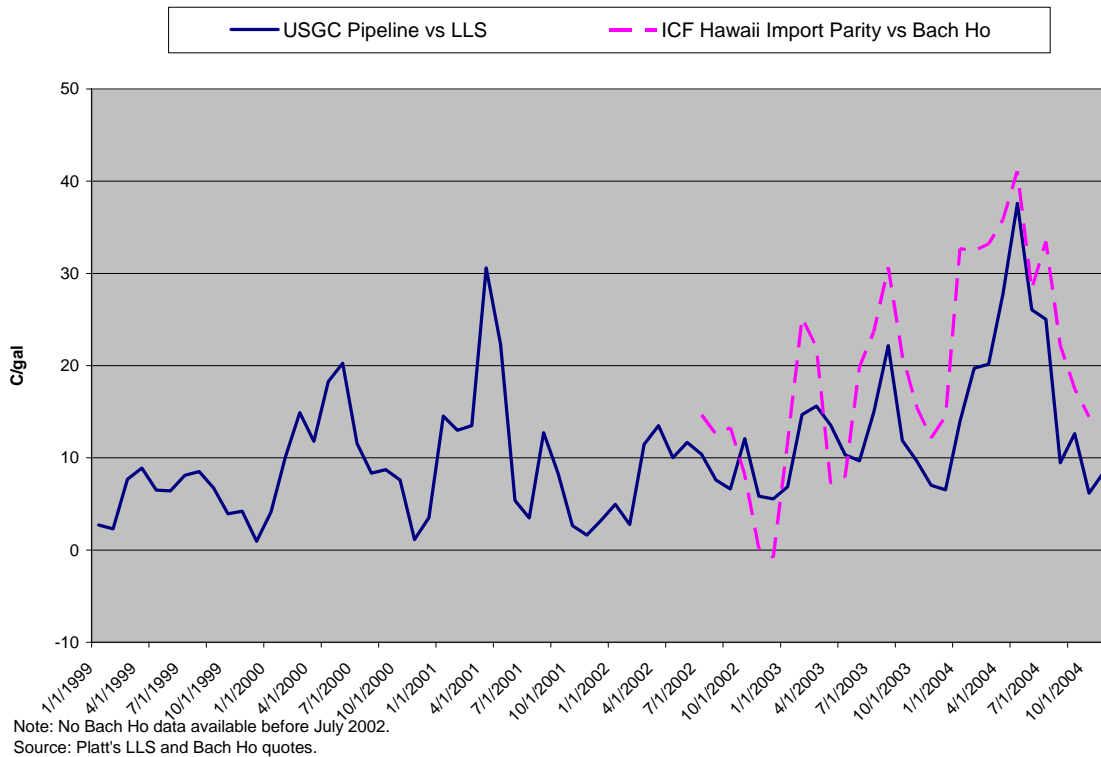


EXHIBIT 3.5: 87 CONVENTIONAL UNLEADED GASOLINE VS. OTHER HEAVY SWEET CRUDE



Source: Platt's Duri and Cano Limon quotes.

EXHIBIT 3.6: 87 CONVENTIONAL UNLEADED GASOLINE VS. LIGHT SWEET CRUDE



The comparison of gasoline price to crude oil cost is only a partial indicator of a refiner's profitability, and does not reflect any of the costs of operation, percentage of product yields, or value of other products. However, these data indicate that using the recommended import parity price as a Bulk marketing margin provides relatively similar gasoline to crude oil margins as refiners in Mainland locations.

ICF recommends that Bulk sales from refineries in Oahu be limited to the calculated import parity pricing, plus 1 cpg to provide a margin incentive for importing. Any bulk deliveries in zones other than Oahu should be limited to the Oahu price plus zone differential. This price cap enables buyers to secure product from refiners at prices that compete with imported supply, and allows refiners to receive a market-based price for bulk refinery sales, similar to Mainland practice.

3.3 DTW AND RACK SALES OVERVIEW

As noted, the import parity price is the source price used to determine marketing margins. In order for gasoline to move from import parity on Oahu to the ultimate end user, there are additional costs that must be incurred. The final wholesale sale price should cover those costs and provide a reasonable profit for the seller.

The difference in price between the selling price and the cost of supply is the marketing gross margin. Exhibit 3.7 shows a basic marketing margin calculation. The gross margin incorporates all costs associated with providing gasoline into the terminal supplying product (in Hawaii this includes costs of barging from Oahu and all terminal cost

charges). In order to be profitable as a marketing company or as a marketing business unit of an integrated company, marketing gross margins should cover wholesale marketing costs (this would include costs for brand advertising, sales representatives & management, additives, etc) and provide a reasonable profit margin. For the DTW class of trade, the gross margin also needs to cover the cost of truck delivery to the dealer's station. A more detailed discussion of the Classes of Trade can be found in Appendix B.

EXHIBIT 3.7: MARKETING GROSS MARGIN

| | DTW | RACK |
|-------------------------------|------------|-------------|
| Gasoline Purchase | A | A |
| Transport to Zone | B | B |
| Terminal Handling and Loading | C | C |
| Sell at Station | D | |
| Sell at Terminal Rack | | E |
| Gross Margin | D-(A+B+C) | E-(A+B+C) |

Based on price data provided to the EIA by Hawaii marketers and refiners, ICF was able to estimate historic gross margins for Oahu versus the ICF import parity determination. Exhibits 3.8 and 3.9 show that the Oahu gross margins for DTW and Rack sales have averaged about 32 and 28 cpg in 1999-2004, although margins declined in 2004 to 21 and 18 cpg, respectively.

As noted earlier, ICF's task is to assess whether the Legislature's suggestion of an 18 cpg wholesale margin is appropriate for the Gas Cap formula factor. In order to do this ICF elected to examine Mainland margins on both DTW and Rack gasoline sales to identify similarities or differences to Hawaii's gross margins or costs. ICF's analysis focused on identifying competitive gross marketing margins in Mainland locations for all classes of wholesale trade. Positioning Hawaii marketing gross margin caps with the generally competitive Mainland markets will simulate a competitive marketplace in Hawaii.

3.4 GAS CAP MARKETING MARGIN PRICE ANALYSIS

ICF's analysis of Rack and DTW gasoline margins was done with a similar process. ICF compared the Rack and DTW margins for similar quality conventional gasoline in several Mainland locations.

3.4.1 Rack Pricing

For Rack prices, ICF evaluated historical Platt's data on average terminal rack prices for unleaded gasoline in eight major US markets. (See below)

| | |
|-------------|--------------|
| Albany, NY | Phoenix, AZ |
| Atlanta, GA | Portland, ME |
| Dallas, TX | Seattle, WA |
| Detroit, MI | Tampa, FL |

In order to determine the Marketing margin, the Platt's pricing must be compared to a supply cost for the product into that market. The supply cost (See Exhibit 3.8) is based

on a spot market price for unleaded gasoline plus pipeline or barge cost to the market area, and a terminal fee.

EXHIBIT 3.8: WHOLESALE RACK PRICING MARGIN: SUPPLY COST BASIS

| | SOURCE COST (1) | TRANSPORTATION (2) |
|---|------------------------|---------------------------|
| Albany | NYH Conventional | Barge |
| Atlanta | USGC Pipeline | Colonial P/L |
| Dallas | USGC Pipeline | Explorer P/L |
| Detroit | Chicago Pipeline | Wolverine P/L |
| Phoenix | LA Pipeline | KinderMorgan |
| Portland, ME | NYH Conventional | Barge |
| Seattle | Seattle Barge | Barge |
| Tampa | USGC Waterborne | Barge/Tanker |
| (1) Prices all based on Platt's, except NYH Conventional is based on OPIS | | |
| (2) Published tariffs, estimated barge costs, terminal fee of 1 cpg added | | |

ICF evaluated the Rack sales profitability in cpg sales from 1999 to 2004, with annual average results for each location shown on Exhibit 3.9. The rack margins can be volatile based on local supply and demand conditions, with higher margins during summer driving season or during periods of supply disruption.

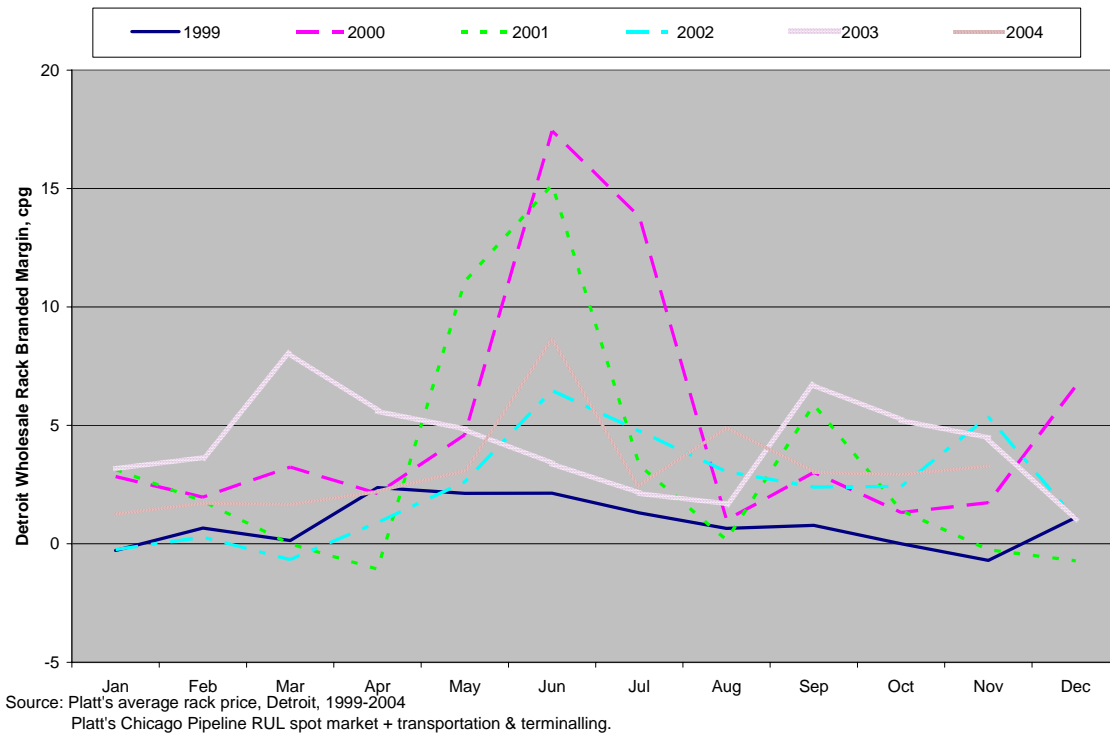
EXHIBIT 3.9: HISTORICAL WHOLESALE RUL RACK MARGINS, US MAINLAND (CPG)

| Historical Wholesale Rack Margins¹, US Mainland (cpg) | | | | | | | | | |
|---|---------------|----------------|---------------|----------------|---------------------|--------------|----------------|----------------|----------------|
| | Albany | Atlanta | Dallas | Detroit | Portland, ME | Tampa | Seattle | Phoenix | Average |
| 1999 | 0.68 | 2.39 | 0.82 | 0.86 | 2.26 | -0.25 | 1.23 | 4.38 | 1.55 |
| 2000 | 2.27 | 4.76 | 2.01 | 4.98 | 3.57 | 1.08 | 7.03 | 3.75 | 3.68 |
| 2001 | 1.94 | 5.31 | 7.51 | 3.32 | 4.12 | 1.86 | 10.19 | 4.58 | 4.85 |
| 2002 | 1.58 | 5.11 | 3.88 | 2.37 | 2.18 | 0.32 | 6.72 | 6.03 | 3.52 |
| 2003 | 2.54 | 4.65 | 5.09 | 4.16 | 2.50 | 2.41 | 5.95 | 7.46 | 4.34 |
| 2004 | 1.82 | 6.39 | 2.34 | 3.19 | 3.12 | 3.01 | 2.97 | 3.99 | 3.35 |
| Overall 1999-2004 | 1.80 | 4.77 | 3.61 | 3.14 | 2.96 | 1.40 | 5.68 | 5.03 | 3.55 |

¹ Platt's average Rack pricing less spot market cost plus transportation, cpg

Exhibit 3.10 shows historical margin volatility for Detroit, as an example of the range of margins typical in managing supply and demand. This variability in the margin is used by Suppliers as a tool to manage demand and preserve inventory for delivered (DTW) customers. Typical "peak" margins can at times be roughly double the annual average margin.

EXHIBIT 3.10: MONTHLY UNLEADED RACK MARGIN FOR DETROIT



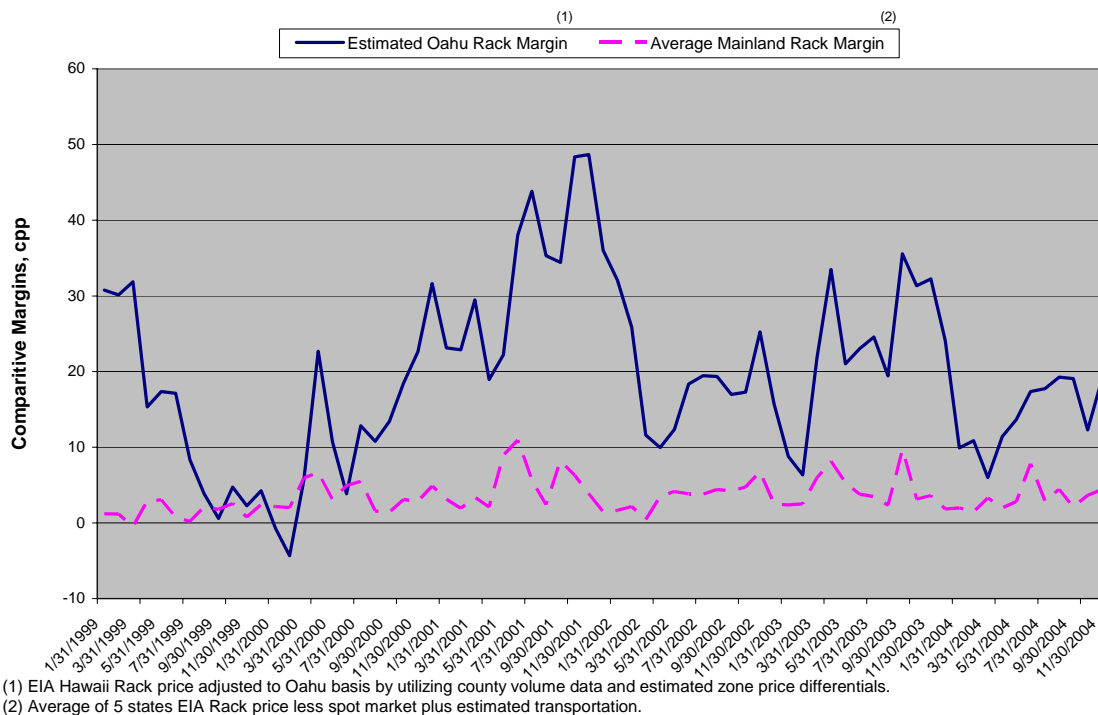
ICF believes that the Hawaii Gas Cap for Rack based wholesale sales should reflect a peak Mainland margin limit. This would permit Hawaii resellers to continue to use Rack pricing strategies consistent with Mainland resellers, but with a defined ceiling on the margin. Using the average Rack margin (instead of the peak) as the ceiling would lead Hawaii resellers to weaker average margins than Mainland locations.

A comparison of the estimated Oahu Rack Price (based on EIA data) vs. the US Mainland average Rack margins for the 8 cities shows that there is a significant spread between the Hawaii margins and the Mainland margins (See Exhibits 3.11 and 3.12). Note that Mainland Branded Rack marketers must cover their marketing expenses out of the average gross margins of 3.5 cpg (1999-2004). Hawaii Rack margins have averaged about 19.4 cpg gross margin (1999-2004). It is difficult to determine a level of profitability on a macro analysis like this, but it is clear the mainland profit level is small (likely in the 1 cpg range).

**EXHIBIT 3.11: ESTIMATED OAHU UNLEADED RACK MARGIN VS. AVERAGE
MAINLAND RACK MARGIN**

| Average | Estimated Oahu Rack Margin | Ave. Mainland Rack Margin | Est. Oahu Rack Margin minus Ave. Mainland Rack Margin |
|----------------|---------------------------------------|--------------------------------------|--|
| 1999 | 13.89 | 1.55 | 12.34 |
| 2000 | 12.30 | 3.68 | 8.62 |
| 2001 | 33.44 | 4.85 | 28.58 |
| 2002 | 18.69 | 3.52 | 15.17 |
| 2003 | 23.48 | 4.34 | 19.13 |
| 2004 | 14.23 | 3.35 | 10.88 |
| Ave. 1999-2004 | 19.41 | 3.55 | 15.86 |

EXHIBIT 3.12: ESTIMATED OAHU UNLEADED RACK MARGIN VS. AVERAGE MAINLAND RACK MARGIN



ICF recommends that the Marketing margin factor for Hawaii wholesale Rack sales be determined based on an average of the marketing margins of the US Mainland locations noted in Exhibit 3.11 above. Based on the historical peak month average margins, the Hawaii margin factor should be double the prior year Mainland annual average, and the factor should be recalculated on an annual basis to recognize fundamental changes in marketing margins. For 2005, this means that the Marketing margin factor for Branded unleaded gasoline would be 6.7 cpg (which is double the 2004 Mainland Rack Margin on Exhibit 3.11). The utilization of the peak month margin provides the flexibility needed (and demonstrated) in marketing pricing to achieve an average margin. It also directionally addresses the fact that Hawaii marketers may be managing their business with higher fixed costs per gallon of sales than the Mainland markets evaluated.

In order to examine the Unbranded gasoline margin cap, ICF secured data from OPIS. OPIS performs rack pricing evaluation similar to Platt's; however OPIS also breaks down the rack sales into Branded and Unbranded categories. ICF looked at OPIS data from 2002 to current to determine the relative variability of Unbranded price to Branded. These data (See Exhibit 3.13) show that Unbranded prices mirror Branded prices closely over the period, but at times will invert above Branded by 2-3 cpg (month average). The Unbranded pricing can be especially volatile, since it is a class of trade that both Unbranded buyers and sellers recognize is used to manage inventory and supply. ICF believes that the Hawaii Gas Cap formula should recognize that at times it may be necessary to have Unbranded gasoline above Branded to assist in managing supply and demand. Consequently, ICF is recommending that the Unbranded Rack price cap be

established at 3 cpg above the Branded price cap. For 2005, this would mean a price cap of 9.7 cpg.

EXHIBIT 3.13: BRANDED VS. UNBRANDED PRICE COMPARISONS (CPG)

| Branded vs. Unbranded Price Unleaded Comparisons (cpg) | | | | | | | |
|--|-------------------------|--------|--------|---------|---------|-------|----------------------|
| | | Albany | Dallas | Detroit | Seattle | Tampa | Average ¹ |
| 2002 | Ave. Margin | 0.82 | 0.09 | -0.58 | 7.39 | 0.15 | 1.57 |
| 2003 | Ave. Margin | 0.86 | 0.36 | -0.35 | 2.74 | -0.38 | 0.64 |
| 2004 | Ave. Margin | 0.42 | -0.59 | 0.03 | -0.01 | -0.87 | -0.20 |
| | Low Margin ² | -2.15 | -1.10 | -0.64 | -2.79 | -2.24 | -1.78 |

¹ Average margin for branded - unbranded price at each location

² Average of months where unbranded price is greater than branded price

3.4.2 DTW Pricing

ICF's recommendation on DTW Price Caps is based on average historical DTW prices for conventional gasoline in five US Mainland markets which have a significant volume of DTW business. The DTW margins are determined by comparing EIA data on DTW prices in specific states with the spot market acquisition cost of gasoline plus estimated transportation to a distribution terminal in the state. Neither Platt's nor OPIS provides DTW prices in a specific region as is done with Rack prices. Getting regional DTW pricing is possible from other price service organization, but the data is very expensive and may not offer significant value compared to the EIA data.

ICF evaluated DTW pricing for conventional gasoline in states which contain the regions included in the Rack analysis, namely Georgia, Florida, Maine, Michigan and New York. The calculation process was similar to the Rack calculation process, with ICF comparing EIA's DTW price for conventional unleaded gasoline with a calculated supply cost to procure and transport product into the State. While the Rack analysis relies on published pipeline tariffs or typical marine costs to move gasoline from a market source to a specific location (e.g. Atlanta, Detroit, etc), it is more difficult to assess the cost to position gasoline throughout a state for DTW sales. The cost is likely to be somewhat higher than that used in the Rack margin calculation, but would be heavily dependent on the distribution of sales within the state, and additional pipeline cost to further distribute gasoline. ICF will add an additional 1 cpg to the estimated supply cost used for Rack margin calculations to approximate this cost.

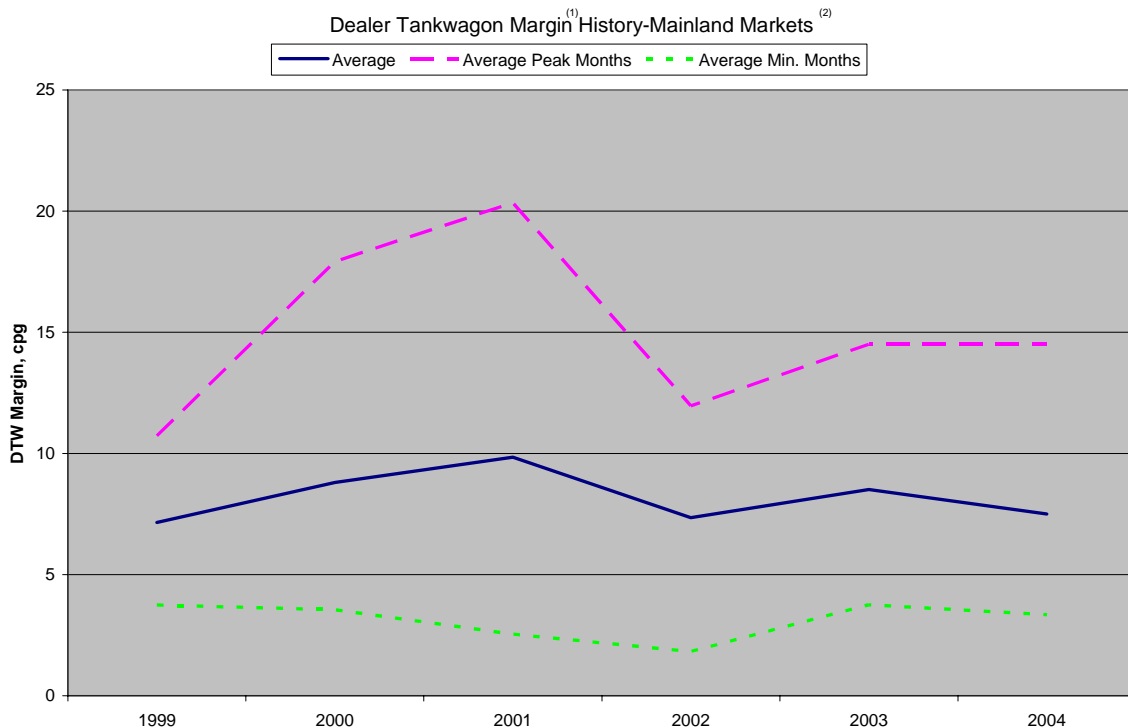
Based on these assumptions, ICF has identified average DTW margins in these states over the past 5 years. The average DTW margin in 2004 was 7.5 cpg (See Exhibit 3.14) for these states. As with the Rack margins, the DTW margin can vary based on market conditions.

EXHIBIT 3.14: HISTORICAL DEALER TANKWAGON (DTW) UNLEADED AVERAGE MARGINS, CPG

| | Florida | Georgia | Maine | Michigan | New York | AVG |
|---|---------|---------|-------|----------|----------|-----|
| 1999 | 7.6 | 5.0 | 11.5 | 5.6 | 6.0 | 7.2 |
| 2000 | 7.0 | 7.2 | 13.2 | 8.9 | 7.8 | 8.8 |
| 2001 | 7.1 | 10.9 | 14.7 | 7.5 | 9.5 | 9.8 |
| 2002 | 4.6 | 7.0 | 10.9 | 6.2 | 8.1 | 7.4 |
| 2003 | 5.0 | 6.7 | 11.78 | 7.9 | 11.1 | 8.5 |
| 2004 | 4.0 | 6.7 | 11.0 | 7.0 | 8.9 | 7.5 |
| Source: EIA State average DTW prices; Platt's spot market gasoline plus pipeline or marine transportation estimate to state. | | | | | | |

Exhibit 3.15 shows how the margin has varied for the five states over the past 5 years. Peak DTW margins tend to be at levels about double the average.

EXHIBIT 3.15: DEALER TANKWAGON UNLEADED MARGIN HISTORY-MAINLAND MARKETS



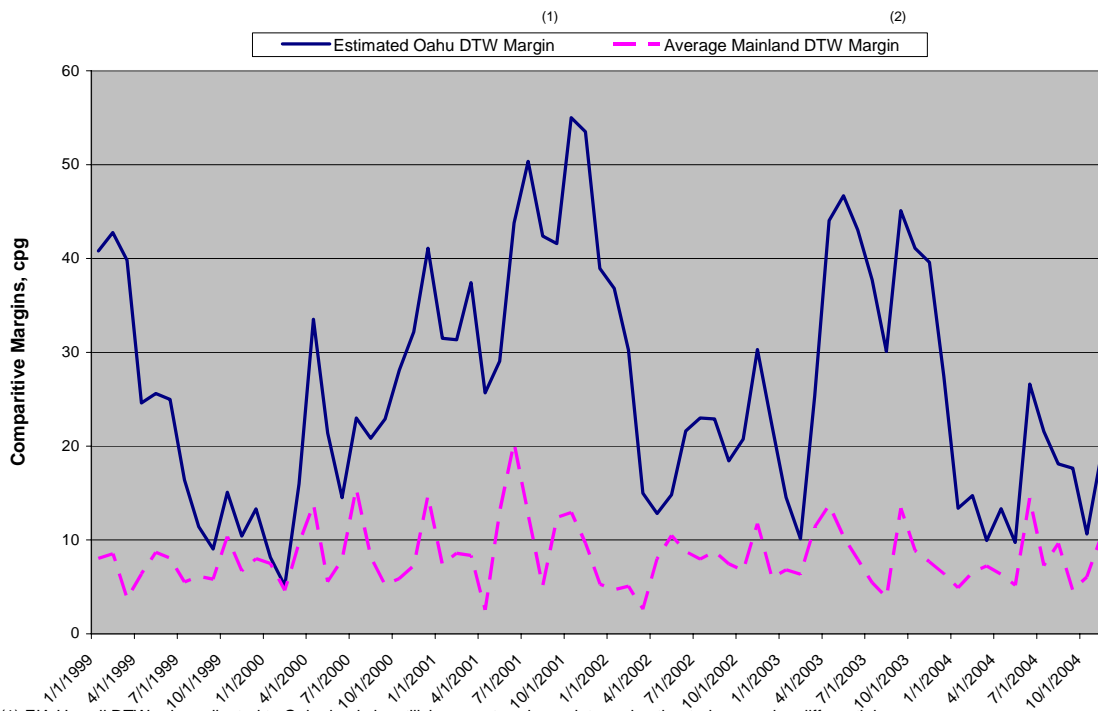
These marketing margins are the “gross margin” for DTW business, which means that distributors, jobbers, or oil companies who are selling to dealers must be able cover their costs (Rack acquisition price, truck delivery, resources, additives, etc) from this margin.

As with the Rack margins, ICF compared the Oahu DTW historical pricing with the average Mainland DTW margins for the States evaluated. Exhibits 3.16 and 3.17 show the data in tabular and graphic form. DTW marketers on the Mainland have averaged about 8.2 cpg margin (1999-2004), and DTW marketers on Oahu about 23.3 cpg margin.

EXHIBIT 3.16: ESTIMATED OAHU UNLEADED DTW MARGIN VS. AVERAGE MAINLAND DTW MARGIN

| Average | Estimated Oahu DTW Margin | Ave. Mainland DTW Margin | Est. Oahu DTW Margin minus Ave. Mainland DTW Margin |
|----------------|---------------------------|--------------------------|---|
| 1999 | 22.86 | 7.16 | 15.70 |
| 2000 | 22.23 | 8.80 | 13.43 |
| 2001 | 40.05 | 9.85 | 30.20 |
| 2002 | 22.41 | 7.35 | 15.06 |
| 2003 | 33.73 | 8.51 | 25.22 |
| 2004 | 15.89 | 7.51 | 8.38 |
| Ave. 1999-2004 | 26.34 | 8.20 | 18.13 |

EXHIBIT 3.17: ESTIMATED OAHU UNLEADED DTW MARGIN VS. AVERAGE MAINLAND DTW MARGIN



(1) EIA Hawaii DTW price adjusted to Oahu basis by utilizing county volume data and estimated zone price differentials.

(2) Average of 5 states EIA DTW price less spot market plus estimated transportation.

As with the Rack market, Mainland data indicate that DTW margins can at times be double the average for periods of a month or longer. It is important that this pricing flexibility be provided in the Gas Cap formula to enable marketers to competitively position their product or it is likely the average margin will not be achievable. Moreover, it also directionally addresses the fact that Hawaii marketers may be managing their business with higher fixed costs per gallon of sales than the Mainland markets evaluated.

Based on this analysis, ICF recommends that the DTW marketing margin price cap be set based on the prior year average DTW margins in these states, with the cap set at double the average margin. This insures Hawaii wholesale marketers the flexibility to manage their business in a range consistent with Mainland marketers. For 2005, the DTW marketing margin cap would be 15.0 cpg, based on the 2004 average DTW margin of 7.5 cpg.

In addition, the average Mainland DTW margins should be high enough to cover the cost to deliver gasoline from the terminal to the service stations. Based on data provided to ICF by Hawaii marketers, we believe that the truck costs in Oahu may be close to typical US costs to deliver gasoline. However, the outer islands appear to be marginally higher than Oahu, and we recommend that the higher relative cost in the outer islands is incorporated into the Gas Cap formula factors. These adjustments range from zero to up to 4.5 cpg in Zone 8. These increments to the margin will be identified in the zone adjustment section (6.0), and will be added into the total price determination formula.

Furthermore, marketers who purchase Unbranded gasoline for resale to independent dealers have exposure to higher than Branded costs for gasoline supply, but also do not have all the Branded gasoline expenses. ICF's best assessment of this tradeoff is that for DTW Gas Cap purposes, we recommend that the Unbranded DTW margin cap be established as equal to the Branded DTW marketing margin cap.

Exhibit 3.18 below shows the Recommended DTW Margin Cap by year for Oahu.

EXHIBIT 3.18: RECOMMENDED UNLEADED DTW MARGIN CAP, (CPG)

| | Actual DTW Margin, Mainland | Recommended Hawaii DTW Margin Cap |
|---|--|--|
| 1999 | 7.2 | 14.4 |
| 2000 | 8.8 | 17.6 |
| 2001 | 9.8 | 19.6 |
| 2002 | 7.4 | 14.8 |
| 2003 | 8.5 | 17.0 |
| 2004 | 7.5 | 15.0 |
| Note: DTW cap is applied in the following year gas cap calculation (e.g., the 17 cpg cap based on 2003 actual DTW margin is applied in 2004.) | | |

3.5 WHOLESALE PRICE IMPACT

Determining the impact that wholesale gas caps may have had on wholesale prices over the last several years can be problematic. As noted earlier, ICF is recommending that a total of 96 wholesale gas prices be determined each week (8 zones, three grades of gasoline, 4 classes of wholesale trade). To be accurate, a post-audit would require significant levels of historical data from Suppliers, and extensive time reviewing and analyzing data.

Alternatively, ICF has evaluated the State-wide data provided by suppliers to the government on wholesale gasoline prices and volumes. ICF compared monthly EIA State-wide prices for Regular Unleaded grade gasoline from 1999 to 2004 for the DTW and Rack class of trade with the calculated import parity price in the same time periods.

ICF adjusted the Statewide EIA price data to estimate an Oahu-based DTW price based on the percentage of gasoline sales in each zone in 2003 and 2004 (from DBEDT sales data) and actual company DTW and Rack pricing data from 2003 and 2004 in Maui, Kauai, and Hawaii (data for 1999-2002 assumed similar differences between Oahu DTW and the outer zones). Exhibit 3.19 shows the calculated Oahu historical DTW price versus the ICF recommended import parity price and the recommended DTW price cap for each year from 1999-2004.

EXHIBIT 3.19: OAHU UNLEADED DTW GAS CAP IMPACT, CPG

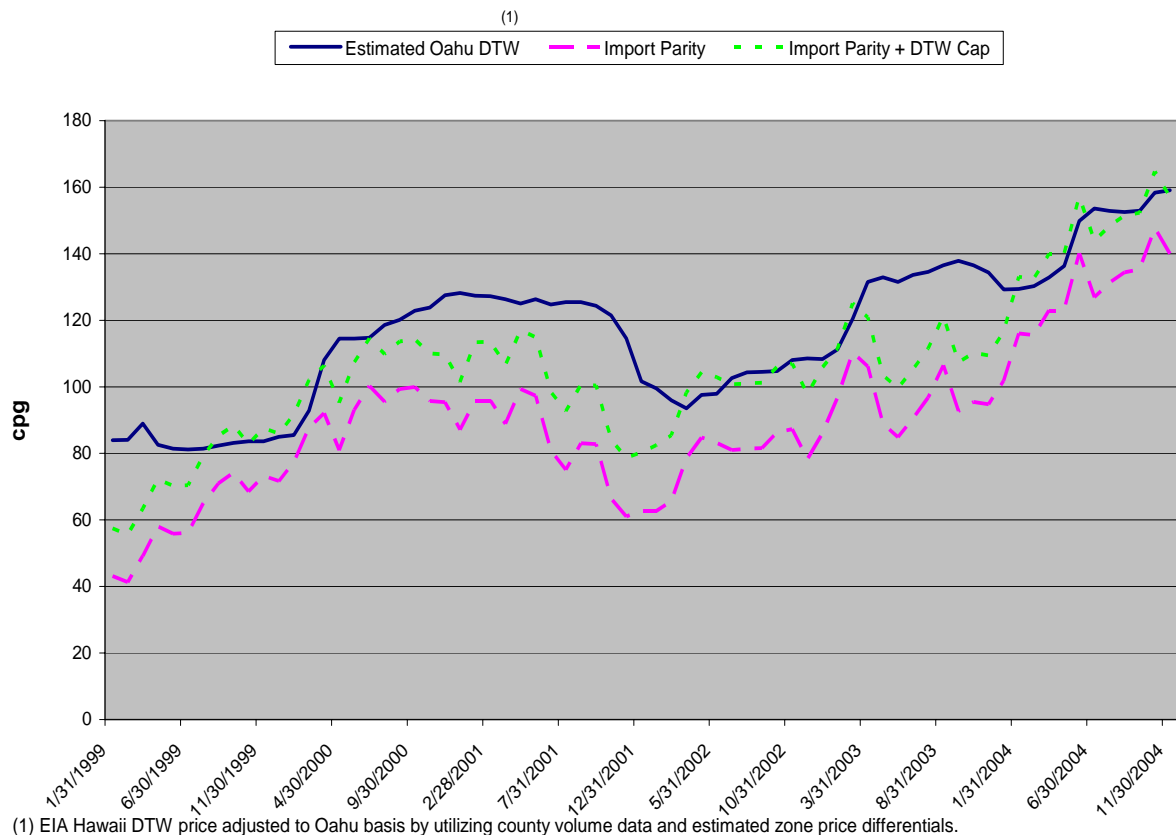
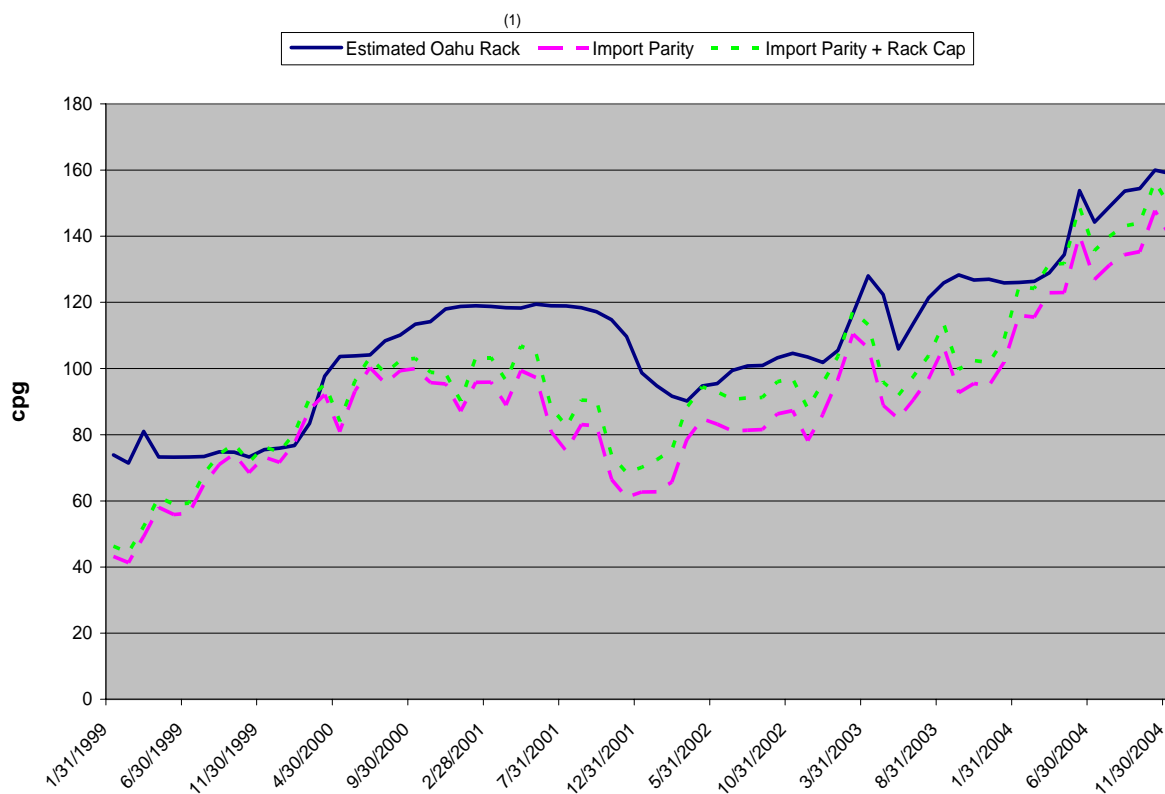


Exhibit 3.20 shows similar data for the Branded Rack historical price versus the ICF recommended import parity price, and the recommended Branded Rack price cap.

EXHIBIT 3.20: OAHU UNLEADED RACK GAS CAP IMPACT, CPG



(1) EIA Hawaii Rack price adjusted to Oahu basis by utilizing county volume data and estimated zone price differentials.

Exhibits 3.21 and 3.22 show the same information in tabular form. Note that the 2004 data indicate that for both DTW and Rack classes of trade, the difference between the calculated cap and the estimated Oahu pricing has narrowed from prior years.

EXHIBIT 3.21: OAHU HISTORICAL UNLEADED DTW PRICE VS. ICF RECOMMENDED PRICE CAP, CPG

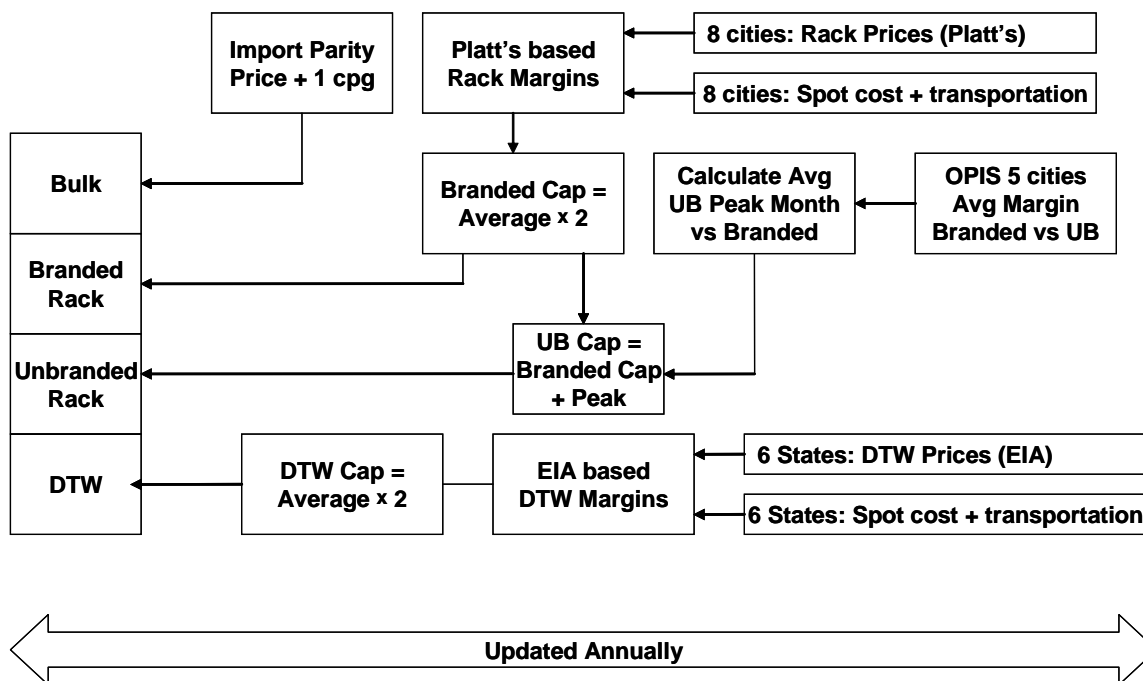
| | DTW (1) | Import Parity (2) | DTW Cap | Import Parity + DTW Cap | Cap Impact |
|---|---------|-------------------|---------|-------------------------|------------|
| 1999 | 83.44 | 60.59 | 14.30 | 74.89 | (8.56) |
| 2000 | 114.27 | 92.05 | 14.30 | 106.35 | (7.93) |
| 2001 | 122.50 | 82.45 | 17.60 | 100.05 | (22.45) |
| 2002 | 102.14 | 79.73 | 19.70 | 99.43 | (2.71) |
| 2003 | 130.87 | 97.14 | 14.70 | 111.84 | (19.03) |
| 2004 | 146.19 | 130.30 | 17.00 | 147.30 | 1.11 |
| (1) EIA Hawaii DTW price adjusted based on Company data and Zone gasoline sales (DBEDT) | | | | Ave. Impact | (9.93) |
| (2) 2.2 cpg terminal fees added for Oahu zone | | | | | |
| 1999 cap same as 2000 cap due to lack of 1998 data | | | | | |

**EXHIBIT 3.22: OAHU HISTORICAL UNLEADED RACK PRICE VS. ICF
RECOMMENDED PRICE CAP, CPG**

| | Rack ⁽¹⁾ | Import Parity ⁽²⁾ | Rack Cap | Import Parity + Rack Cap | Cap Impact |
|---|---------------------|------------------------------|----------|--------------------------|------------|
| 1999 | 74.47 | 60.59 | 3.10 | 63.69 | (10.79) |
| 2000 | 104.35 | 92.05 | 3.10 | 95.15 | (9.2) |
| 2001 | 115.89 | 82.45 | 7.40 | 89.85 | (26.04) |
| 2002 | 98.42 | 79.73 | 9.70 | 89.43 | (8.99) |
| 2003 | 120.62 | 97.14 | 7.00 | 104.14 | (16.48) |
| 2004 | 144.53 | 130.30 | 8.70 | 139.00 | (5.53) |
| (1) EIA Hawaii Rack adjusted based on Company data and Zone gasoline sales (DBEDT). | | | | Ave. Impact | (12.84) |
| (2) 2.2 cpg terminal fees added for Oahu zone | | | | | |
| 1999 cap same as 2000 cap due to lack of 1998 data | | | | | |

This analysis indicated that the recommended gas cap formula would have reduced the average wholesale price of DTW and Rack gasoline sales on Oahu from 1999 to 2004 by about 10-13 cpg. Exhibit 3.23 shows the entire process to determine marketing margins.

EXHIBIT 3.23: MARKETING MARGIN CAP DETERMINATION PROCESS



3.6 Gas Cap Marketing Margin Monitoring

It should be noted that the monitoring of how these marketing margins are managed should be a very high priority for the Commission. Consistent pricing at the Cap level

would imply either an ongoing tight product market, or the misapplication of the Gas Cap process. The flexibility recommended in the marketing margins (both Rack and DTW) is intended to provide marketers the ability to alter pricing within reasonable bounds to achieve market volume and profit goals.

The implementation of the marketing margin caps provides a defined ceiling to Hawaii consumers on wholesale marketing prices. However, it is important to note that the ceiling will rise or fall with global hydrocarbon prices, as deemed by the intent of the legislation. Additionally, Hawaii consumers should also recognize that there is no legislative requirement for gasoline retailers to “pass through” any reduction in cost that the wholesale Gas Caps may provide to the retail dealer. Rather, the Legislative conclusion was that the retail competition level was sufficiently active that any lower wholesale pricing to retailers would be passed on to consumers. This should also be closely monitored.

It should also be noted that about 26 percent of Hawaii’s gasoline is sold directly at the Retail level. These would primarily be sales directly from Refiners into company owned and operated service stations. Under 486H-13, these volumes are considered retail sales and not included in the price cap legislation.

3.7 Marketing Margin Considerations

The analysis done by ICF for marketing margins relies heavily on the Mainland margins. This is done to provide an “outside Hawaii” perspective to the process of determining appropriate and competitive marketing factors. Mainland marketers in all classes of trade have, as evidenced by the margin data presented, been able to sustain profits with much lower gross margins than Hawaii marketers. ICF has recognized and incorporated cost data provided by Hawaii suppliers and marketers for barging costs, terminal charges, and trucking costs that all may be higher than typical Mainland costs.

Data provided on wholesale marketing costs, unlike the logistics cost noted above, varied widely among respondents, with some costs which would be in excess of the proposed DTW or Rack cap, and others below the proposed caps. ICF has elected at this time to recommend marketing margin caps based on our fundamental analysis and comparison to Mainland margins.

ICF has noted based on the pricing data provided by the companies, there are often periods of time in Hawaii where both the Rack and DTW wholesale prices do not change for several months (although Retail prices may change). On the Mainland, marketers must change pricing daily, and at times intra-day to preserve their marketing margins and volumes. A stagnated wholesale price environment may be indicative of a market which is less efficient than the Mainland or with less incentive to manage costs.

4.0 PREMIUM & MIDGRADE ADJUSTMENTS (TASK D AND E)

4.1 DISCUSSION AND METHODOLOGY

The Legislature has both the Premium grade of gasoline (92 octane) and Midgrade gasoline (89 octane) in the Gas Cap legislation. The Legislature has included an additional marketing margin of 9 cpg for Premium and 5 cpg for Midgrade to recognize the higher quality of those grades of gasoline compared to 87 octane Regular Unleaded.

As is the case with the base Regular Unleaded marketing margins, the Premium and Midgrade margins can be different depending on the class of trade (Bulk, Rack, and DTW) involved in the wholesale transaction.

ICF's methodology to determine competitive market based pricing for Premium and Midgrade conventional gasoline is to analyze historical pricing patterns in the spot market (for the Bulk class of trade), and at selected terminal racks in Mainland locations for the Rack class of trade. Historical DTW pricing will also be compared for several US states.

ICF will not be including PADD 5 as a comparison point for the Premium and Midgrade adjustment factors. PADD 5 information is highly influenced by California's gasoline market, in terms of demand and quality. The significant volume of gasoline manufactured and sold to California's specifications may contribute to the higher premiums for Super (Premium) and Midgrade on the entire west coast. ICF believes a better representation of Hawaii's octane market is based on the East of the Rockies marketing areas.

4.2 Bulk Sales

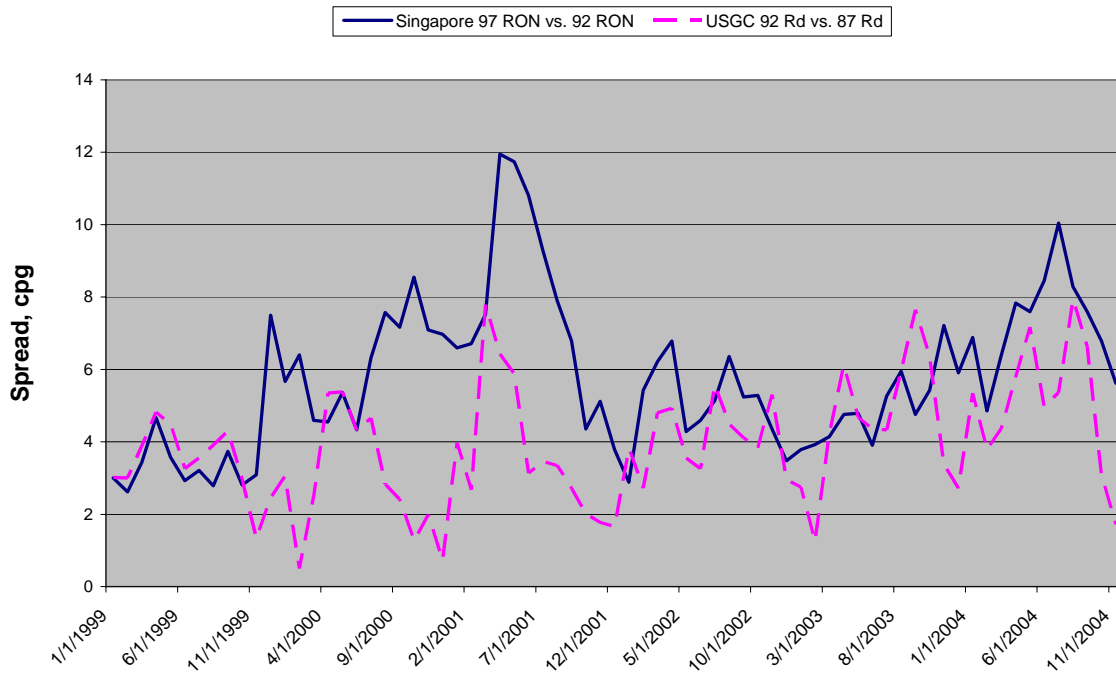
Sales of Premium and Midgrade gasoline on a Bulk basis are typically done at a differential to the spot market gasoline price for the Regular Unleaded grade. A refiner producing the higher octane grade will expect a premium to recover their cost to produce the better quality product. The premium actually received is determined by the supply and demand for the grade in the marketplace.

Analysis of historical spot market pricing spreads from Platt's between Premium and Midgrade gasoline versus Regular Unleaded are shown on Exhibits 4.1 and 4.2, respectively. These figures show the pricing history based on the US Gulf Coast and Singapore spot market prices (these are the two baseline price points for the import parity determination). Note that the octane level of US Gulf Coast Premium is based on a 93 road octane rating versus 92 in Hawaii, and the Singapore octane ratings are based on a 97 Research octane rating for Premium (equivalent to about 92 Road), and 95 Research octane rating for Midgrade (equivalent to about 88 Road).

Because the US Gulf Coast Premium gasoline is one octane level higher than Hawaii, and the Singapore Midgrade octane level is one octane higher than Hawaii, ICF has adjusted the historical pricing spread versus Regular Unleaded down to preclude overstating the market value of these grades. Exhibits 4.1 and 4.2 below shows the year to year average differential for both the Premium and Midgrade Bulk supply versus

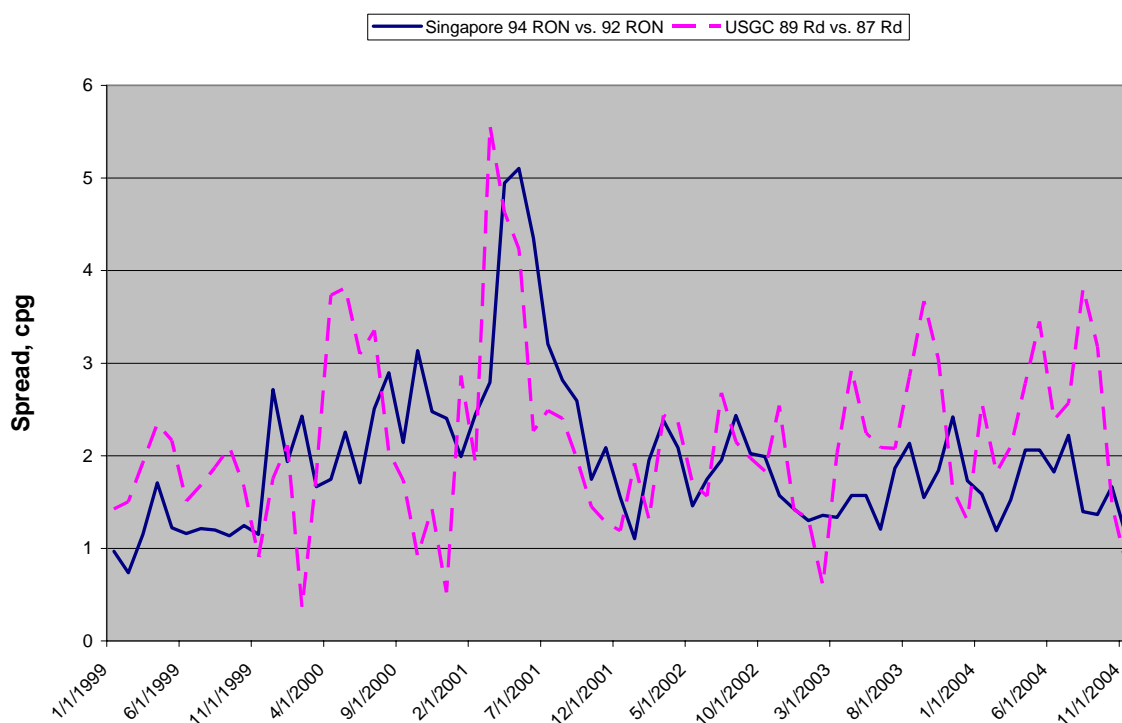
Regular Unleaded based on Hawaii octane levels. There can be some variability over time in these spreads, since they are subject to market supply and demand forces as well.

EXHIBIT 4.1: HISTORICAL BULK SPOT MARKET SPREADS, PREMIUM VS. REGULAR, CPG



Source: Platt's monthly average prices for Premium and RUL grades; USGC Platt's adjusted to 92 SUL vs 93 SUL quoted.

EXHIBIT 4.2: HISTORICAL BULK SPOT MARKET SPREADS, MIDGRADE VS. REGULAR, CPG



Source: Platt's monthly average prices for Midgrade and RUL grades; Singapore Platt's adjusted to 94 Midgrade vs 95 Midgrade quoted.

In order to best represent the Premium and Midgrade adjustment factors for Bulk sales in the Gas Cap formulation, ICF recommends using a fixed differential based on the prior years' average differential for US Gulf Coast and Singapore based product. For the 2005 Gas Caps, the average spread for Premium gasoline in 2004 is 6.2 cpg, and for Midgrade, the average spread in 2004 is 2.0 cpg based on Exhibit 4.3.

EXHIBIT 4.3: BULK SPOT MARKET SPREADS FOR PREMIUM AND MIDGRADE GASOLINE, CPG

| Date | Premium | | | Midgrade | | |
|---|----------|-----------|--------|----------|---------------|--------|
| | USGC (1) | Singapore | Basket | USGC | Singapore (2) | Basket |
| 1999 | 3.4 | 3.6 | 3.5 | 1.7 | 1.3 | 1.5 |
| 2000 | 2.9 | 6.2 | 4.5 | 2.1 | 2.3 | 2.2 |
| 2001 | 3.7 | 7.7 | 5.7 | 2.7 | 3.0 | 2.9 |
| 2002 | 4.1 | 5.0 | 4.6 | 2.0 | 1.8 | 1.9 |
| 2003 | 4.5 | 5.0 | 4.8 | 2.1 | 1.7 | 1.9 |
| 2004 | 5.1 | 7.3 | 6.2 | 2.5 | 1.6 | 2.0 |
| Average | 3.9 | 5.8 | 4.9 | 2.2 | 2.0 | 2.1 |
| (1) Platt's data adjusted to 92 RD equivalent | | | | | | |
| (2) Platt's data adjusted to 89 RD equivalent | | | | | | |

4.3 Rack Based Sales

ICF analyzed the average Rack margins for Premium and Midgrade gasoline in selected US markets, namely, Albany, Atlanta, Dallas, Detroit, Portland (Maine) and Tampa. These locations were chosen based on a geographic mix of locations in the East-of-the Rockies area (as noted above, ICF did not include PADD 5 locations due to constraints on producing higher octane grades in California).

4.3.1 Premium Grade

The result of the analysis for Premium grade gasoline is shown on Exhibit 4.4, which tracks the average monthly margin of these 6 locations over time from 1999 to 2004. Data in tabular form is displayed in Exhibit 4.5. Note that these locations supply 93 Road octane Premium gasoline, versus Hawaii's need for 92 Road octane product. The cost to produce 92 SUL is roughly proportionate to the relative octane level versus 87 Road Unleaded. ICF has adjusted the 93 Rd vs. 87 Rd price differential to estimate a 92 Rd vs. 87 Rd differential.

EXHIBIT 4.4: PREMIUM GASOLINE RACK MARGINS, MAINLAND CITIES



Source: Platt's City Rack vs Regular Prices for Albany, Atlanta, Detroit, Portland (ME), and Tampa.
Premium adjusted to 92 Rd vs. 93 Rd in Platt's quote.

EXHIBIT 4.5: PREMIUM AND MIDGRADE RACK MARGINS, CPG

| Date | Premium¹ | Midgrade |
|---|----------------------------|-----------------|
| 1999 | 6.3 | 2.9 |
| 2000 | 7.0 | 3.5 |
| 2001 | 7.8 | 3.6 |
| 2002 | 7.6 | 3.3 |
| 2003 | 8.1 | 3.5 |
| 2004 | 9.2 | 4.2 |
| Average | 7.7 | 3.5 |
| Source: Platt's Rack Price averages for 6 cities (Albany, Atlanta, Dallas, Detroit, Portland (ME), and Tampa) | | |
| ¹ Premium adjusted to 92 Rd vs. 93 Rd in Platt's quote. | | |

Rack margins for Premium gasoline versus Regular Unleaded will vary over time based on regional supply and demand competitive factors regarding the supply of higher octane products. These variations, however, are significantly less than the variations seen in the wholesale marketing margin itself. ICF recommends that the Premium marketing margin factor be updated annually on March 1 based on the prior years' average price for these locations on the Mainland. Updating this factor more frequently than annually adds a higher degree of volatility to pricing changes, and complexity to the understanding of the formula.

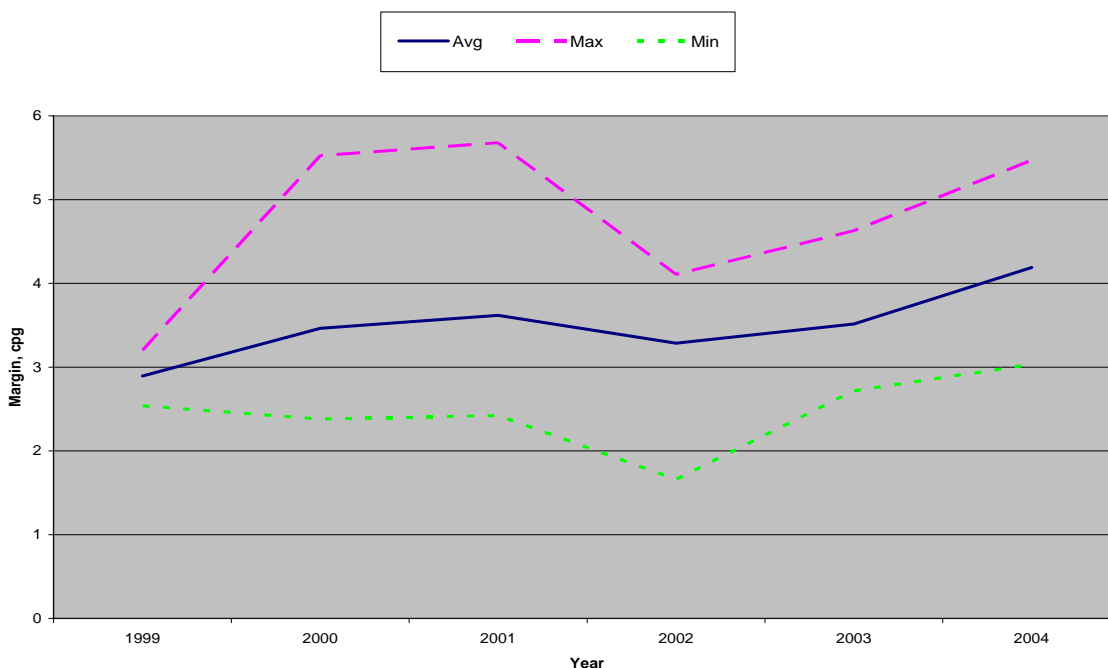
In addition, ICF does not believe there is value in further differentiating the Rack sales based on Branded and Unbranded classes of trade. The Premium (and Midgrade) spreads versus Regular Unleaded are not believed to vary significantly between these classes of trade.

Based on this analysis, ICF recommends the Premium Rack adjustment factor be maintained at the 486H-13(g) recommended 9 cpg for 2005.

4.3.2 Midgrade

The results of the analysis for Midgrade grade gasoline are shown on Exhibit 4.6, which tracks the average monthly margin of these 6 locations over time from 1999 to 2004. Data in tabular form is displayed in Exhibit 4.5. Note that these locations supply 89 Road octane Premium gasoline, comparable to Hawaii's need for 89 Rd.

EXHIBIT 4.6: MIDGRADE GASOLINE RACK MARGINS, MAINLAND CITIES, CPG



Source: Platt's City Rack Midgrade vs Regular Prices for Albany, Atlanta, Detroit, Portland (ME), and Tampa

As with Premium and other hydrocarbon commodities, Rack margins will vary over time based on regional supply and demand competitive factors regarding the supply of higher octane products. These variations, however, are significantly less than the variations seen in the wholesale marketing margin itself. ICF therefore recommends that the Midgrade marketing margin factor be updated annually on March 1 based on the prior years' average price for these locations on the Mainland. Updating this factor more frequently than annually adds a higher degree of volatility to pricing changes, and complexity to the understanding of the formula.

Based on this analysis, ICF recommends that a Midgrade Rack Marketing adjustment factor of 4.2 cpg be utilized for the Gas Cap formula for 2005.

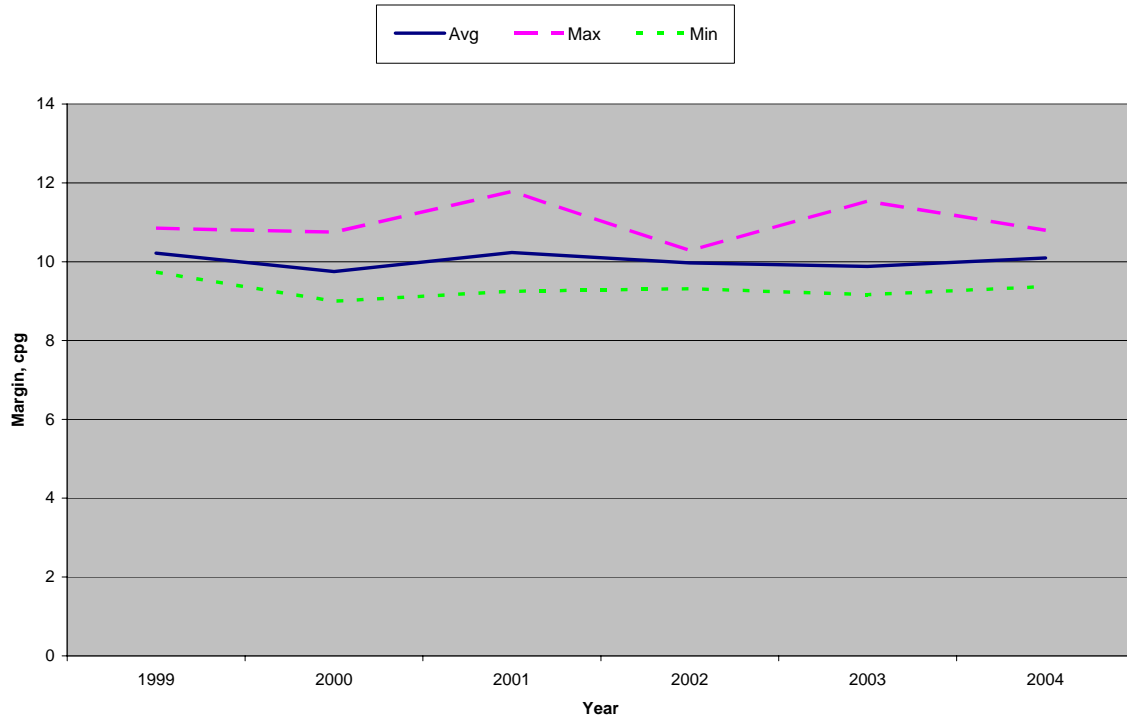
4.4 DTW Based Sales

As detailed in the Marketing margin section (3.4.2) access to DTW pricing in selected locations is not as easily or economically obtained as Rack and Bulk pricing. However, comparisons of EIA's DTW pricing between gasoline grades in a given State are reasonably good quality, and provide a good indicator of DTW spreads between Premium and Midgrade gasoline versus Regular Unleaded

4.4.1 Premium

Exhibit 4.7 shows the DTW margin for conventional Premium gasoline versus Regular Unleaded in the six State markets reviewed over the past 5 years. The markets reviewed are markets in which 93 Rd octane is sold, and hence ICF adjusted the prices to a lower price differential based on a 5 octane number uplift versus Regular Unleaded rather than 6.

EXHIBIT 4.7: PREMIUM GASOLINE DTW MARGIN, MAINLAND STATES, CPG



Source: EIA Statewide DTW Premium vs Regular Prices for FL, GA, ME, MI, and NY adjusted to 92 RON vs 93 RON

The results show that the DTW margin for Premium grade gasoline averaged about 10 cpg on a 92 Rd basis in 2004 (See Exhibit 4.8). ICF recommends that this margin be used as the adjustment factor for the DTW Premium grade sales.

EXHIBIT 4.8: PREMIUM AND MIDGRADE DTW MARGINS, CPG

| Date | Premium ¹ | Midgrade |
|---------|----------------------|----------|
| 1999 | 10.2 | 6.6 |
| 2000 | 9.8 | 6.5 |
| 2001 | 10.2 | 6.6 |
| 2002 | 10.0 | 6.3 |
| 2003 | 9.9 | 6.5 |
| 2004 | 10.1 | 6.4 |
| Average | 10.0 | 6.5 |

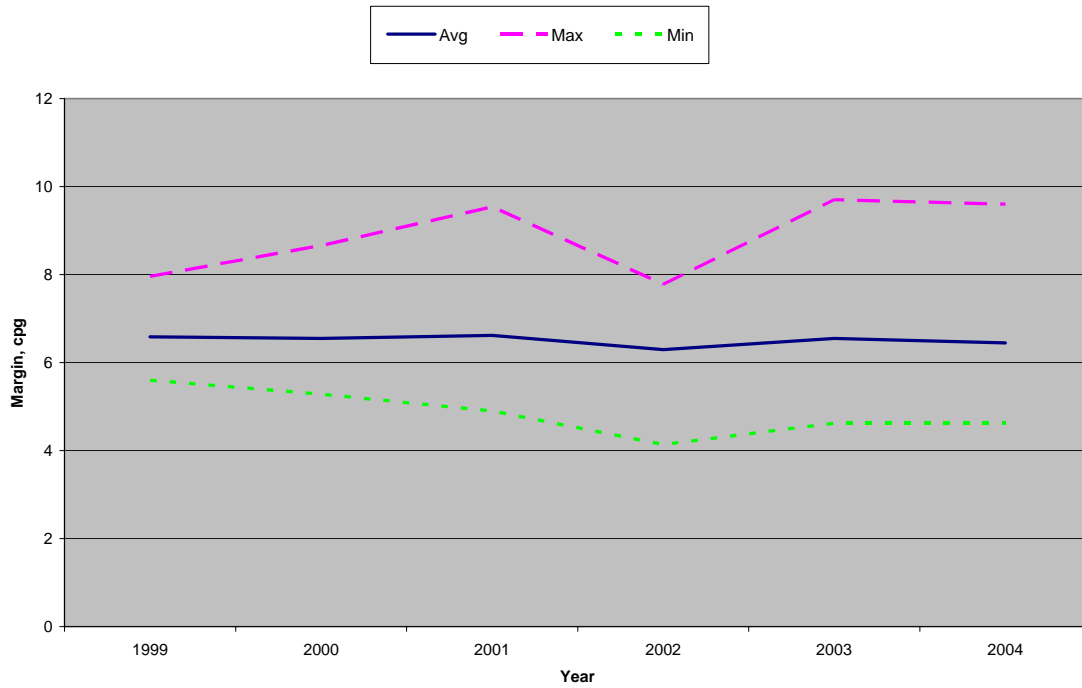
Source: Platt's Rack Price averages for 6 states (Florida, Georgia, Maine, Michigan, and New York)

¹ Premium adjusted to 92 Rd vs. 93 Rd in Platt's quote.

4.4.2 Midgrade

Exhibit 4.9 shows the DTW margin for conventional Midgrade gasoline versus Regular Unleaded in the six State markets reviewed over the past 5 years. The markets reviewed are markets in which 89 Rd octane is sold; hence there is a direct comparison available on octane grade.

EXHIBIT 4.9: MIDGRADE GASOLINE DTW MARGIN, MAINLAND STATES, CPG



Source: EIA Statewide DTW Midgrade vs Regular Prices for FL, GA, ME, MI, and NY adjusted to 92 RON vs 93 RON

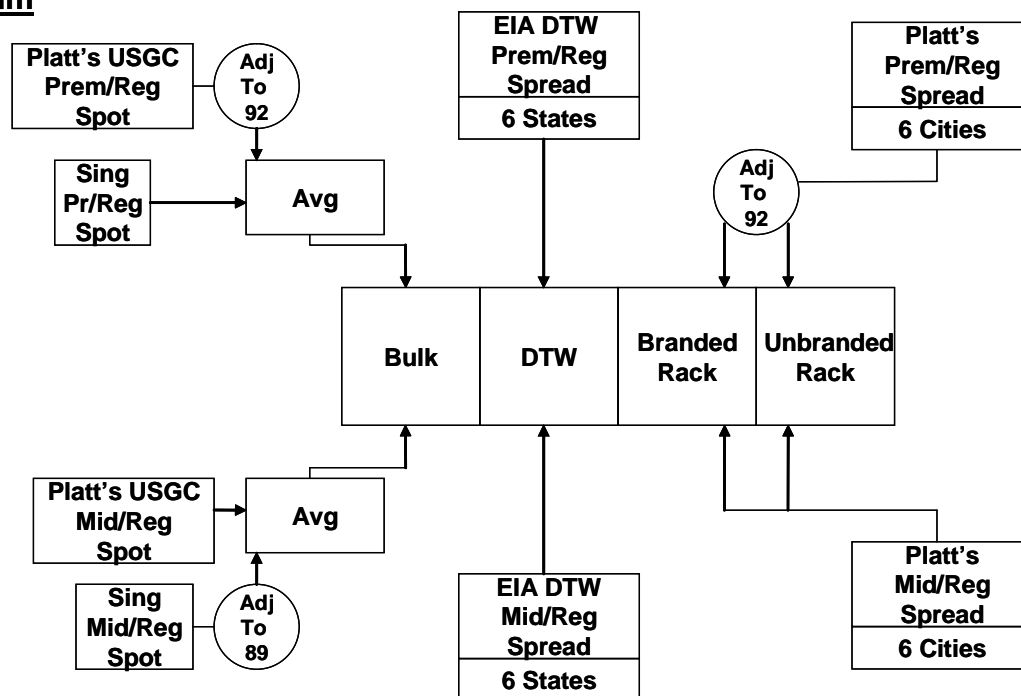
The results show that the DTW margin for Midgrade gasoline averaged about 6 cpg in 2004 (See Exhibit 4.8). ICF recommends that this margin be used as the adjustment factor for the DTW Midgrade gasoline sales.

4.5 Process for Premium & Midgrade Margins

Exhibit 4.10 outlines the data flow and information needed to assess and update Premium and Midgrade margins.

EXHIBIT 4.10: PREMIUM & MIDGRADE MARGIN DETERMINATION PROCESS

Premium



Midgrade

4.6 Summary Recommendations for Marketing Margins, Premium & Midgrade Margins

Exhibit 4.11 summarizes ICF's recommendation for marketing margins, and for Premium and Midgrade margins for each class of trade for the 2005 Gas Cap formula. The factors are market based, and are recommended to be updated annually to reflect fundamental changes in grade differentials.

EXHIBIT 4.11: MARKETING MARGIN RECOMMENDATIONS, CPG 2004 PRICE ADJUSTMENT VS. BASELINE IMPORT PARITY

| | UNLEADED | PREMIUM | MIDGRADE |
|---|----------|-------------|------------|
| DTW | 15.0 | UNLD + 10.0 | UNLD + 6.5 |
| Rack, Branded | 6.7 | UNLD + 9.0 | UNLD + 4.2 |
| Rack, Unbranded | 9.7 | UNLD + 9.0 | UNLD + 4.2 |
| Bulk | 1.0 | UNLD + 6.0 | UNLD + 2.0 |
| 486H-13 Factors | 18.0 | UNLD + 9.0 | UNLD + 5.0 |
| Basis: 2004 Analysis of Platt's wholesale rack prices, selected US locations, OPIS Branded/Unbranded spread in similar locations, and Platt's spot market pricing, published pipeline tariffs, and EIA DTW data. | | | |

ICF also recommends timing the annual updates to be implemented on March 1 each year. This will provide the ability to access and analyze full prior year data in determining the need to update factors. The updated factors would then be in effect from March 1 to February 28 of the following year.

4.7 Impact of Premium and Midgrade Recommendations

Analysis of the recommended Premium and Midgrade margin caps versus actual is detailed in Exhibit 4.12. ICF evaluated historic pricing data provided by companies from August, 2004, and compared to the recommended margin caps. The recommended 2005 Premium margin caps would result in a 1 – 4 cpg reduction in Premium gasoline margins based on August 2004 pricing. Bulk Premium caps would be about equal to actual pricing. The recommended Midgrade margin caps would be roughly equivalent to actual pricing as well. Spot analysis of other months indicated relatively similar findings.

EXHIBIT 4.12: PREMIUM AND MIDGRADE MARGIN CAP IMPACT

| August, 2004 | | |
|--|---------|----------|
| DTW, cpg | Premium | Midgrade |
| Actual Margins ⁽¹⁾ | 11-14 | 5-6 |
| Recommended 2005 Cap | 10 | 6.5 |
| Impact | (1-4) | 0-1 |
| Rack, cpg | Premium | Midgrade |
| Actual Margins ⁽¹⁾ | 11-13 | 4-6 |
| Recommended 2005 Cap | 9 | 4.2 |
| Impact | (2-4) | (0-2) |
| Bulk, cpg | Premium | Midgrade |
| Actual Margins ⁽¹⁾ | 5-7 | ----- |
| Recommended 2005 Cap | 6 | 2 |
| Impact | NA | NA |
| (1) Actual margins based on company response data. | | |

5.0 DOCUMENTS, DATA AND INFORMATION NEEDED TO DETERMINE ZONE PRICE ADJUSTMENTS (TASK F)

5.1 Overview

This section details the information needed for the Commission to assess the zone price adjustments required for the Oahu import parity pricing calculation. These data provide input to the Commission by company. Since each company may, for various reasons, incur different costs for (for example) barging from Oahu, terminal operations, and so on, the Commission will utilize information provided by the parties to determine, as best possible, an average cost of supplying gasoline to the defined zones.

The costs will include transportation from Oahu to the zone by barge, as well as storage and terminaling costs in all zones.

5.2 Zones

The zones are defined by HRS § 486H-13(h) as follows:

- (1) Zone 1 shall include the island of Oahu;
- (2) Zone 2 shall include the island of Kauai;
- (3) Zone 3 shall include the island of Maui, except the district of Hana;
- (4) Zone 4 shall include the district of Hana on the island of Maui;
- (5) Zone 5 shall include the island of Molokai;
- (6) Zone 6 shall include the island of Lanai;
- (7) Zone 7 shall include the districts of Puna, south Hilo, north Hilo, and Hamakua on the island of Hawaii; and
- (8) Zone 8 shall include the districts of north Kohala, south Kohala, north Kona, south Kona, and Kau on the island of Hawaii.

5.3 Terminal Costs

The cost to own and operate a petroleum terminal comprises a number of cost factors, including resources, power, chemicals, maintenance, and many more. Normally, terminal owners will work to maximize terminal throughput, including leasing out space in the terminal if it has the capacity

In order to quantify zone cost differences, ICF recommends that each terminal owner provide a statement of their terminal costs, on both a total dollar and cpg throughput basis as input into the gas cap process. Terminal costs should be total terminal cost (fixed plus variable) on a cpg total throughput basis.

The use of total terminal costs (rather than variable), recognizes the full cost to market gasoline in the zone. It additionally provides the Supplier or marketer an incentive to maximize throughput to reduce overall cost on a cpg basis.

Terminal cost information should be updated annually to reflect changes in the cost structure for each zone. ICF recommends that the terminal cost data in each zone be averaged to provide a reasonable estimation for each zone's cost. We additionally

recommend that the data be provided in time to allow updated zone factors to be determined and implemented by March 1 of the year following the reported period.

5.4 Barging Costs

The cost to barge product to the outer islands can vary significantly based on factors such as barge drop size, port issues, distance, multi-port voyages versus single port, and so on. Hawaii suppliers rely primarily on Hawaii based barge companies to move product, and contract with those companies for barge and tug services.

The barge companies maintain the barge equipment, tugboats, and other equipment to manage the product movement. Suppliers work with the barge companies to coordinate the timing of barge movements and the volumes moved to sustain petroleum supply on the outer islands, and optimize the cost of delivery.

The costs incurred by Suppliers for barging product are a fundamental cost to provide product to the outer zones, and need to be incorporated into the Gas Cap process. As with terminaling costs, the cost for each Supplier to move product may be somewhat different due to their location, tankage issues, contract terms with the barge companies, and so on. In addition to the actual cost to charter the barges and tugs to move the product, Suppliers will incur costs related to inspections, losses, and demurrage (excessive port delays) which, while typically small, are part of the cost of barge supply.

ICF's recommendation is that the cost to move product from Oahu to each zone be provided annually to the Commission by each company, so that a determination could be made of the average cost to supply each zone. These average costs will be used to update the zone cost differentials in the Gas Cap process. The use of average costs provides a balanced cost to Hawaii consumers.

ICF also recommends that the annual barging costs be reported to the Commission in time to implement new annual Gas Cap factors by March 1 of the year following the reporting period.

5.5 Trucking Costs

In order to determine correct zone cost adjustments for DTW business, each marketer selling gasoline on a DTW basis should provide, on an annual basis, their average cost to transport gasoline to DTW customers in each zone. An initial assessment should be made based on 2004 data, and updated numbers provided to the PUC by February 15, 2006 and every year thereafter. The updated numbers should include an assessment of changes from the prior year.

The DTW cost data for the outer zones will be compared to the Oahu trucking costs to determine what adjustment, if any, needs to be made. ICF believes that Oahu's trucking costs are representative of Mainland regions used in determining the DTW marketing margin. The outer zones, in most cases, are more representative of rural regions and given the geography, should have higher delivery costs than Oahu. ICF recommends that these higher costs should be added to the zone costs for the DTW Class of trade.

6.0 ZONE PRICE ADJUSTMENTS (TASK G)

6.1 Overview

This section identifies the portion of the Gas Cap formula addressed by 486H-13 which provides for a cost adjustment to transport gasoline from the source base in Hawaii (Oahu) to the specific zones identified in the legislation. The intent of this section is to identify the cost involved in providing gasoline to the outer zones and positioning the product to be loaded into trucks for either Rack or direct delivery via a DTW sale.

The primary method to move gasoline from Oahu to the other zones is via barging. As noted in Section 6 above, the cost (in cpg) to move hydrocarbons by barge is dependent on a number of factors, including the obvious distance involved, size or capacity of the barge, tugboat and crew, product being moved, and delays or timing of the loadings and deliveries. Costs can be managed or reduced by optimizing barge “drop” sizes to minimize actual trips needed, effective planning, collaboration with other companies moving product, and so on.

Once the product is moved to the zone, it is discharged into either company owned or leased storage prior to delivery to either company operated stations, Rack customers, or DTW customers.

6.2 Cost Determination

In order to determine the actual cost to move product to the outer zones, and to store product, the Commission requested the parties' to provide actual data for 2003 and 2004 so that true costs could be used in the analysis. These numbers were analyzed by ICF to determine reasonableness based on Hawaii's overall demand level, terminal size, and barge operational considerations (distance, etc). Because the data is confidential, specific costs for each Supplier will not be presented, and due to the very limited number of market participants moving product and owning terminals, it would not be prudent to present ranges of costs.

However, as with any competitive situation, there is a range of costs that were identified, and in most cases the range was reasonably close enough to develop an average cost of barging, and an average terminaling cost for each zone for 2004. These costs are presented in Exhibit 6.1. The costs presented in the table are aggregated to preserve the confidentiality of company response data. There are several observations on this table:

1. Barging costs were based on data provided, and include an additional cost for losses, inspections, and demurrage of 0.7 cpg.
2. Terminal costs include Oahu terminal costs in all outer zones; gasoline is moved through Oahu terminals on to barges for outer zones, and this cost should be included.
3. Trucking costs were estimated based on a range of high, low and/or average trucking cost supplied by companies. Trucking costs are incurred in the delivered business (DTW sales), and normally are a cost to the marketer which must be covered out of the marketing margin.

The marketing margins estimated by ICF in Section 3 of this report were based on US margins in several states. Typical US truck delivery costs roughly approximate Oahu's estimated cost (based on company responses) of 2.7 cpg. Outer zone trucking costs in excess of this level should be recognized as an added cost of delivered (DTW) supply in these zones, and are noted in Exhibit 6.1.

4. The cost data reported include some high barging costs and high trucking costs based on issues such as barge sizes, port limitations, remote trucking locations, etc.

EXHIBIT 6.1: HAWAII ZONE ADJUSTMENTS, CPG

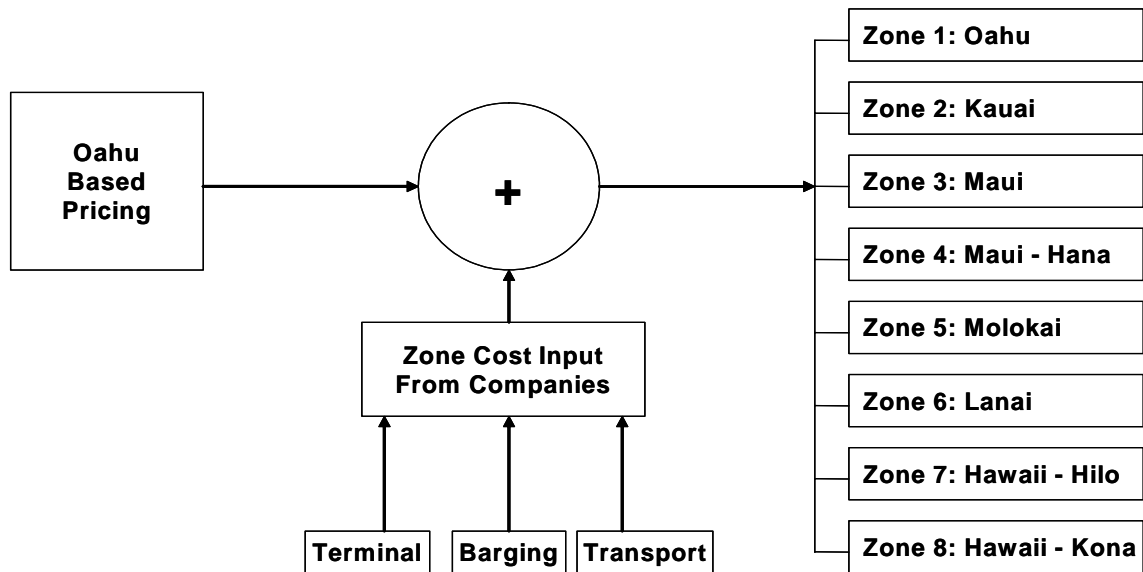
| Hawaii Zone Adjustments, cpg | | | | |
|---|-------|-------------------------------|-------------|------------------|
| Freight and Terminaling ⁽¹⁾ | | | | |
| | Barge | Terminal Costs ⁽²⁾ | Truck Costs | Total Adjustment |
| Zone 1: Oahu | 0.0 | 2.2 | Base | 2.2 |
| Zone 2: Kauai | 4.3 | 5.6 | 1.5 | 11.4 |
| Zone 3: Maui (Kahului) | 4.2 | 5.5 | 0.1 | 9.8 |
| Zone 4: Maui (Hana) | ---- | ---- | ---- | 28.4 |
| Zone 5: Molakai | ---- | ---- | ---- | 31.2 |
| Zone 6: Lanai | ---- | ---- | ---- | 40.3 |
| Zone 7: Hawaii (Hilo) | 6.2 | 4.9 | 2.1 | 13.2 |
| Zone 8: Hawaii (Kawaihae) | 6 | 5.4 | 4.6 | 16.0 |
| (1) Barging costs (including demurrage, losses, inspection fees), trucking costs, and terminaling charges based on average of company responses; truck costs for Oahu are covered by DTW margins; incremental trucking cost in outer zones above Oahu cost are additive to the zone adjustment. | | | | |
| (2) Terminal costs include Oahu terminal cost, as all volume moves through Oahu terminals to load onto outer island barges. | | | | |

Since Hawaii's petroleum demands are relatively stable to slightly growing, it is likely that these numbers will not vary significantly from year to year, other than for inflation and to recognize capital improvements.

Exhibit 6.2 shows the process needed to secure data from the companies to access the cost of moving gasoline to the zones.

EXHIBIT 6.2: ZONE COST ADJUSTMENT PROCESS

Objective: Identify cost to position product from Oahu to defined zones for customer transfer.



6.3 Zone Cost Adjustment Impact

The recommended adjustments to the Gas Caps to position product in Zones 2 through 8 are based on cost data provided by the companies. As noted, ICF averaged these data to arrive at “typical” barge, terminaling, and trucking costs for each zone (aggregated on Exhibit 6.1).

The calculation of the Gas Cap in each zone adds zone cost adjustments to the Oahu based pricing, resulting in a zone price for each product for each class of trade. To determine the impact of the Gas Caps in each zone, the calculated zone price must be compared to actual company pricing in each zone. Section 3.5 identified the impact of Gas Caps on the Oahu wholesale market based on historical data from 1999 – 2004. The price data available to ICF for actual company zone pricing was limited to 2003 and 2004; however an estimate of the impact can be made using data from August 2004.

Note that this estimate should be considered an approximation. The estimated DTW and Rack prices are from company provided data, but not a weighted average price; the Gas Cap calculation includes the August 2004 import parity, and uses 2005 market and zone adjustments (since company zone adjustment data was not sufficient to estimate 2004 zone factors)

Exhibit 6.3 shows that the calculated DTW Gas Caps in August 2004 would have reduced the DTW price by 7-16 cpg in the outer zones, and reduced the Rack price by 5-12 cpg in the same areas.

EXHIBIT 6.3: AUGUST 2004 GAS CAP IMPACT, CPG

| August 2004 Gas Cap Impact | | | | | |
|--|-----------------|------------------|------------------------------|-----------------------------|---------------------------------|
| DTW | RUL, cpg | | | | |
| | Zone 1: Oahu | Zone 2: Kauai | Zone 3: Maui (Kahului) | Zone 7: Hawaii (Hilo) | Zone 8: Hawaii (Kawaihae) |
| Estimated DTW | 154.60 | 175.00 | 173.00 | 167.70 | 171.40 |
| Gas Cap, DTW | 149.44 | 158.64 | 157.04 | 160.44 | 163.24 |
| Impact | (5.16) | (16.36) | (15.96) | (7.26) | (8.16) |
| Rack | RUL, cpg | | | | |
| | Zone 1: Oahu | Zone 2: Kauai | Zone 3: Maui (Kahului) | Zone 7: Hawaii (Hilo) | Zone 8: Hawaii (Kawaihae) |
| Estimated Rack | 150.50 | 157.50 | 161.00 | 157.50 | 163.50 |
| Gas Cap, Branded | 141.14 | 150.34 | 148.74 | 152.14 | 154.94 |
| Impact | (9.36) | (7.16) | (12.26) | (5.36) | (8.56) |
| 1) Estimated DTW and Rack prices based on averages of company responses; Zones 4, 5, and 6 had insufficient data to present... 2) Gas Caps calculated based on August 2004 import parity and use of 2005 market and zone adjustment factors | | | | | |

7.0 DOCUMENTATION NEEDED FOR COMPLIANCE (TASK H)

7.1 Overview

The documents required for the State of Hawaii to both develop market based Gas Caps, and to evaluate wholesale marketers' compliance with the caps are included in this section. The implementation and tracking of Gas Caps is a process that requires a high level of data integrity, security of information, and visibility so that consumers, regulators, and industry representatives have confidence that the calculations, compliance checks, and reporting are accurate.

There are two primary components of the Gas Cap compliance process. The first is the development and communication of the Gas Caps on a weekly basis, and the storage of the information needed to make weekly and annual calculations on price, margins, freight, etc. The second is the Compliance system, which needs to analyze specific wholesale transactions to determine compliance, and report on Gas Cap performance.

It would be feasible to initiate Gas Cap calculations before a complete system for compliance is in place. This would enable implementation to begin September 1, with a complete compliance system in place as soon as possible thereafter.

7.2 Gas Cap Determination

Based on the methodology presented in Sections 2 through 6 of this report, the process to develop and calculate the Gas Caps is detailed below:

7.2.1 ICF recommends the use of the following information from price services:

- Source Price:
 - Platt's US Gulf Coast (USGC) Waterborne gasoline (Super, Midgrade, Unleaded), cpg
 - Platt's Singapore Cargo market gasoline (97, 95 and 92 RON), cpg
 - Source price for the baseline calculation are the average of the USGC Unleaded and Platt's Singapore 92 RON.
 - Source prices are tracked daily and calculated weekly
- Freight Cost:
 - Caribbean market to Oahu
 - Freight market represented by Platt's Caribbean to West Coast market for 30MT Clean vessels. Rate quoted in \$/MT.
 - Cost needs to be adjusted by ICF formula to reflect the added voyage time to Honolulu vs. the USWC
 - Singapore market to Oahu
 - Freight market represented by Platt's Indonesia to USWC, Japan and Korea markets for 30MT Clean product vessels.
 - Costs need to be adjusted by ICF formula for voyage time to Honolulu vs. the other destinations.
 - The estimated freight cost to Oahu will be the average of the Caribbean and Singapore freight estimates to Oahu. Freight cost will be updated weekly.

- The calculated weekly import parity price is the sum of the averages of the baseline price and freight price
- These process steps are presented schematically in Exhibit 2.10.

7.2.2 Marketing Margin Adjustment

- The Marketing Margin adjustment needs to be applied for three Classes of trade: Bulk, Rack, and DTW. Rack needs to be differentiated between Branded and Unbranded.
- These adjustments should be updated annually based on full prior year average marketing margins.
- Bulk margin assessment is fixed at a 1 cpg premium to the spot market (import parity) price.
- Rack Margins:
 - Rack margins are determined based on the local average wholesale terminal rack price in selected Mainland cities, less the spot market cost of supply plus transportation to the terminal rack.
 - Cities evaluated were Albany, Atlanta, Dallas, Detroit, Phoenix, Portland, Me, Seattle and Tampa.
 - Rack prices are based on Platt's Monthly average rack prices in the selected locations;
 - Spot market prices are for conventional grade gasoline as follows: Platt's USGC pipeline and waterborne prices, OPIS New York Harbor prices, and Platt's Chicago pipeline, LA pipeline, and Seattle barge market prices.
 - Pipeline tariffs for Explorer, Colonial, Wolverine, and Kinder Morgan Pipelines were used to determined pipeline costs. ICF estimated barge prices from New York Harbor to Albany and Portland, and USGC to Tampa were used to determine Marine costs.
 - Evaluation of Branded vs. Unbranded pricing in each location was evaluated using OPIS pricing, which provides more granular levels of detail than Platt's.
- DTW Margins: DTW margins in Mainland locations were determined by a similar process as Rack margins, however with several distinctions.
 - Access to Mainland DTW margins was obtained through statewide data from the Energy Information Administration (EIA), rather than a pricing service. Neither Platt's nor OPIS track DTW prices, and the services that do would have been outside budgeted levels for this project.
 - Source spot market prices and pipeline/barge transportation costs are identical to the Rack margin analysis.
 - DTW prices reported by the EIA are Statewide; therefore an additional transportation adjustment was made for situations where additional transport to terminals within a state may have been required.
 - States evaluated were consistent with the Cities identified above, i.e., New York, Georgia, Michigan, Maine, Florida and Washington. Texas was excluded due to a very low level of DTW sales in the state (under 5% of sales); Arizona was excluded due to data uncertainty.
- These process steps are presented schematically in Exhibit 3.20.

7.2.3 Premium Gasoline Adjustment

- The premium gasoline adjustment needs to be applied for 3 Classes of trade: Bulk, Rack, and DTW.
- These adjustments should be updated annually based on full prior year average price differences between Premium and Unleaded gasoline
- **Bulk:** Bulk price adjustments reflect the USGC and Singapore differentials between premium gasoline and regular:
 - Platt's USGC Waterborne Super Unleaded (93 Road), cpg
 - Platt's Singapore Cargo price for 97 RON, cpg
 - USGC price adjusted to 92 SUL (Hawaii grade) by adjusting the differential by 5/6 factor (5 octane lift to Hawaii grade vs. 6 octane lift in market quote)
- **Rack:** Rack price adjustments will be based on US East of the Rockies Platt's wholesale rack price differentials (Super Unleaded vs. Regular) for the following cities: Albany, Atlanta, Dallas, Detroit, Portland, ME, and Tampa. This adjustment is recommended to be applied on an annual basis, based on full prior year data.
 - The above price differential is for 93 octane, and should be adjusted to a 92 differential by the 5/6 methodology used in 7.2.1.
 - ICF recommends using the same adjustment for Branded and Unbranded sales
- **DTW:** (Dealer Tankwagon): DTW price adjustments were determined using EIA data in selected States. States used were New York, Georgia, Texas, Michigan, Maine and Florida.
 - As with the Rack prices, EIA price spreads for 93 octane gasoline must be adjusted to 92 cost equivalent.

7.2.4 Mid Grade Price Adjustment

- The Midgrade gasoline adjustment needs to be applied for 3 Classes of trade: Bulk, DTW and Rack.
- These adjustments will change annually based on full prior year average price differences between Midgrade and Unleaded gasoline
- **Bulk:** Bulk price adjustments reflect the USGC and Singapore differentials between Midgrade gasoline and regular:
 - Platt's USGC Waterborne Midgrade (89 Road), cpg
 - Platt's Singapore Cargo price for 95 RON, cpg
 - Singapore price adjusted to 94 Midgrade (closest to 89 Road) by adjusting premium by 2/3 factor (2 octane lift from 92 to 94 versus the quoted price at 95 vs. 92)
- **Rack:** Rack price adjustments will be based on US East of the Rockies Platt's wholesale rack price differentials (Midgrade vs. Regular) for the following cities: Atlanta, Dallas, Tampa, Portland, Me, Miami and Detroit.
- **DTW:** (Dealer Tankwagon): DTW price adjustments were determined using EIA data in selected States to determine the differentials between conventional Midgrade gasoline and Regular grade. States used were New York, Georgia, Texas, Michigan, Maine and Florida.
- Process steps for Midgrade and Premium adjustments are presented schematically in Exhibit 4.6.

7.2.5 Zone Price Adjustments

- Zone price adjustments require analysis of input on an annual base from Hawaii suppliers. The data required are identified in Section 5 of this report, and a process step diagram shown on Exhibit 6.2.

7.2.6 Summary of Calculation

The Gas Cap calculation requires the weekly determination of Gas Cap prices for three grades of gasoline (Super, Midgrade and Regular) in four classes of wholesale trade (DTW, Rack (Branded and Unbranded), and Bulk) in eight unique zones across the State of Hawaii. This results in a total of 96 wholesale price caps that need calculation and communication to Industry wholesale marketers every week.

The timing of the publication of the gas caps every week is very critical. Updates to the Gas Caps should be done promptly upon receipt of final data points on market prices and freight. Pricing information should be available and published by Price services such as Platt's by the close of business every day in Hawaii. One approach would be to average the pricing through the week ending on Friday, and then update the Gas Caps formula, review Pricing results, and issue updated prices to the companies for use beginning Sunday midnight (Monday AM). An example result graphic is shown in Exhibit 7.1 showing calculated Caps by every class of trade in each zone.

While the calculation process can be automated based on formulas, the new gas caps should be reviewed each week prior to issuance. Since volatility is a possible issue, it will be important to make sure that anomalies in price changes are reviewed to protect against data or input errors.

7.3 Gas Cap Compliance Requirements

In order to identify compliance levels, it will be necessary to collect a significant amount of information from wholesale marketers, and compare price levels with the stated gasoline caps in each zone.

7.3.1 Process

This process will require a database tool to provide for the following:

- Housing the gas price cap for each grade for each class of trade and for each zone (about 81 prices). The data should be linked to the database or spreadsheet that is calculating the weekly gas caps per the agreed formulas.
- Secure input process for specific price information for each company, for each product, class of trade and zone. Data entered from the parties will need to include the following information:
 - Zone
 - Class of Trade (DTW, Rack, Bulk)
 - Date
 - Volume (gallons)
 - Grade (Super, Mid-grade, Unleaded)

- Price before taxes, cpg (cents per gallon)
 - Customer
 - Method of delivery (Bulk- pipeline, barge, ship; Truck)
- Data entered by the parties should be input as soon as practical after the delivery, but no later than one week after the close of the delivery week. (The delivery week will be defined as the time period where the weekly gas cap is in effect, extending from Monday through Sunday of each week).
- The database tool will need to be able to maintain a record for each week of all gas cap calculation data and results, as well as every input from the parties. Both the regulatory body (PUC) and each company should be able to view and interrogate the system to get reports, research historical data, identify non-compliance situations, etc. Each company should have access to only their own data, and the gas cap calculation data.
- The database tool will require that data input on each wholesale transaction have a defined transaction code to simplify data mining by the regulatory body, and to speed analysis and aggregation of data.
- The database should provide ease of entry of transaction data, as well as self-generated codes. In addition, a copy of the invoice used to provide information to the PUC should be retained by the seller and buyer in the event auditing of data is required, and to facilitate spot checking as the regulatory body desires.
- The database tool will need to identify each dealer, jobber, or company who is either a buyer of wholesale product or a seller. Every service station, with the exception of company operated service stations, should have a defined zone. Buyers should be able to interrogate the system to determine if their pricing is within the gas cap limit, and be provided contact information if they believe they have been overcharged.

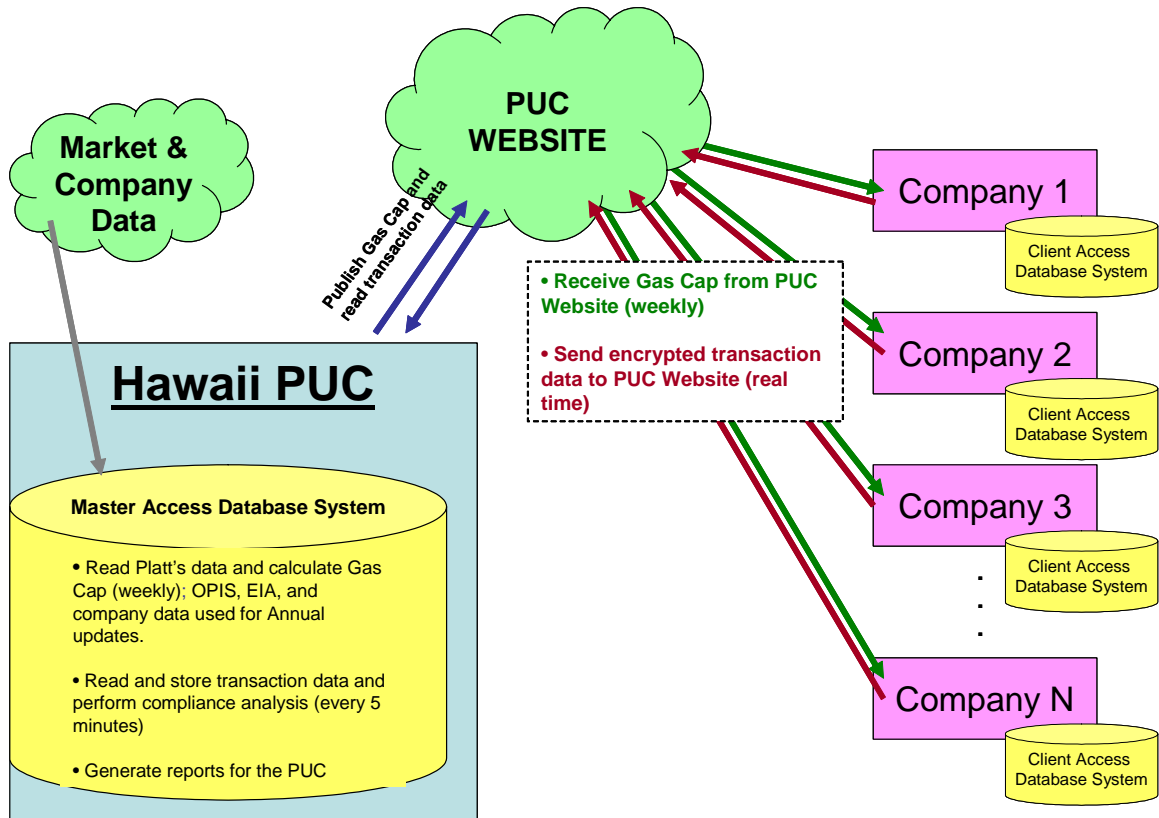
In order to provide access to the database on the most user friendly, fast, and secure basis, ICF recommends that this tool be web enabled, and password protected. Exhibit 7.2 provides an overview of the recommended system approach.

**EXHIBIT 7.1: PRICES BASED ON IMPORT PARITY PRICE IN AUGUST 2004
(WITH 2005 MARKET AND ZONE ADJUSTMENT FACTORS)**

Prices based on Import Parity Price in August 2004

| Zone 1: Oahu | | | | | | | | | | | | |
|---------------------------|---------|-----------|---------|--------------|-----------|---------|----------------|-----------|---------|---------|-----------|---------|
| Date | Bulk | | | Rack Branded | | | Rack Unbranded | | | DTW | | |
| | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium |
| Aug-04 | 135.44 | 137.54 | 141.44 | 141.14 | 145.34 | 150.14 | 144.14 | 148.34 | 153.14 | 149.44 | 155.94 | 159.44 |
| Zone 2: Kauai | | | | | | | | | | | | |
| Date | Bulk | | | Rack Branded | | | Rack Unbranded | | | DTW | | |
| | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium |
| Aug-04 | 144.64 | 146.74 | 150.64 | 150.34 | 154.54 | 159.34 | 153.34 | 157.54 | 162.34 | 158.64 | 165.14 | 168.64 |
| Zone 3: Maui (Kahului) | | | | | | | | | | | | |
| Date | Bulk | | | Rack Branded | | | Rack Unbranded | | | DTW | | |
| | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium |
| Aug-04 | 143.04 | 145.14 | 149.04 | 148.74 | 152.94 | 157.74 | 151.74 | 155.94 | 160.74 | 157.04 | 163.54 | 167.04 |
| Zone 4: Maui (Hana) | | | | | | | | | | | | |
| Date | Bulk | | | Rack Branded | | | Rack Unbranded | | | DTW | | |
| | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium |
| Aug-04 | 161.64 | 163.74 | 167.64 | 167.34 | 171.54 | 176.34 | 170.34 | 174.54 | 179.34 | 175.64 | 182.14 | 185.64 |
| Zone 5: Molakai | | | | | | | | | | | | |
| Date | Bulk | | | Rack Branded | | | Rack Unbranded | | | DTW | | |
| | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium |
| Aug-04 | 164.44 | 166.54 | 170.44 | 170.14 | 174.34 | 179.14 | 173.14 | 177.34 | 182.14 | 178.44 | 184.94 | 188.44 |
| Zone 6: Lanai | | | | | | | | | | | | |
| Date | Bulk | | | Rack Branded | | | Rack Unbranded | | | DTW | | |
| | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium |
| Aug-04 | 173.54 | 175.64 | 179.54 | 179.24 | 183.44 | 188.24 | 182.24 | 186.44 | 191.24 | 187.54 | 194.04 | 197.54 |
| Zone 7: Hawaii (Hilo) | | | | | | | | | | | | |
| Date | Bulk | | | Rack Branded | | | Rack Unbranded | | | DTW | | |
| | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium |
| Aug-04 | 146.44 | 148.54 | 152.44 | 152.14 | 156.34 | 161.14 | 155.14 | 159.34 | 164.14 | 160.44 | 166.94 | 170.44 |
| Zone 8: Hawaii (Kawaihae) | | | | | | | | | | | | |
| Date | Bulk | | | Rack Branded | | | Rack Unbranded | | | DTW | | |
| | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium | Regular | Mid-Grade | Premium |
| Aug-04 | 149.24 | 151.34 | 155.24 | 154.94 | 159.14 | 163.94 | 157.94 | 162.14 | 166.94 | 163.24 | 169.74 | 173.24 |

EXHIBIT 7.2: PUC REPORTING SYSTEM



8.0 EVALUATION OF GAS CAP IMPACTS AND OTHER ISSUES (TASK I)

8.1 Overview

Hawaii's gasoline prices are the highest in the United States for conventional gasoline. This legislation's intent is to insure that Hawaii consumers pay a market based price for gasoline, but do not pay unreasonable prices due simply to the lack of transparency of the oil market in the State. This legislation will primarily provide an ongoing, visible track of wholesale market pricing that has not previously existed. It further provides a cap on the Marketing margin that can be realized to a level consistent with peak levels seen in other US markets for conventional gasoline.

The determination of the impact of gas caps in Hawaii has to be evaluated both looking back and looking forward. An assessment of the impact of the Gas Caps from a historical perspective was evaluated in Sections 3, 4, and 6 of this report.

A forward look is not so readily determined. Calculation of the Gas Caps based on methods discussed in this paper is not difficult. However, the impact of conducting business within the Cap framework may result in some significant re-evaluation of assets and business by Industry participants.

8.2 Gas Cap Impact Analysis

Pricing Impact

ICF's recommendations related to Gas Cap price determinations are: 1) altering the import parity price basis from the provisions set forth in HRS § 486H-13(e) and (f) provisions set forth in HRS § 486H-13(e) and (f); 2) Recognizing multiple levels of Marketing classes of trade, and linking the Marketing margin cap to Mainland margins; 3) Recommending Premium and Midgrade margin caps based on Mainland margins and 4) Establishing zone price adjustments based on actual costs provided by suppliers.

In order to evaluate the pricing impact over history, ICF used Hawaii DTW and Rack data from the EIA from 1999-2004. Based on Hawaii's gasoline demand by county (DBEDT), and using 2003 and 2004 zone DTW and Rack pricing provided by the companies, ICF estimated Oahu DTW and Rack prices. These prices were compared to ICF's calculated Oahu Gas Caps for DTW and Rack sales.

ICF's estimate of the impact of the recommended Gas Caps on Hawaii's wholesale gasoline prices (based on 1999-2004 data), indicates that the Gas Caps would have reduced Oahu Wholesale Unleaded gasoline prices by 10 cpg for DTW and 13 cpg for Rack classes of trade (See Exhibits 3.18 and 3.19). Premium grade prices would be reduced an additional 1-4 cpg (See Exhibit 4.12).

In the other zones, ICF evaluated confidential transportation and terminaling cost data, as well as pricing data provided by companies to the Commission. The zone adjustment

factors recommended by ICF are added to the Oahu import parity and marketing margins to determine Gas Caps in each zone for each class of trade and product grade. Using August, 2004 as an example month, ICF estimates that the Gas Cap implementation would reduce wholesale unleaded prices in the other zones by 7-16 cpg for DTW sales and 5-12 cpg for Rack sales.

Moreover, evaluation of wholesale pricing practices in Hawaii indicate that the wholesale pricing does not adjust on a daily or weekly basis consistent with those classes of trade on the Mainland. In some cases, DTW and Rack prices do not change for months. This can indicate a market that is not efficient.

These changes should put Hawaii consumers on a relatively better gasoline pricing basis with the rest of the United States, however, that does not mean Hawaii consumers will see significant change in gasoline prices at the pump. The reasons for this include:

- 1) The wholesale Gas Caps affect wholesale prices only. While there is a good deal of competitiveness at the retail (street price) level in Hawaii, it must be recognized that retail marketers are under no obligation to lower street price if wholesale prices are reduced.
- 2) Hawaii's location places a premium on product prices. Wholesale product prices need to be high enough to cover the cost of freight and source gasoline price.
- 3) Due to logistics, geography, and scale, the cost to supply the zones outside Oahu will be higher (in some cases significantly).
- 4) Hawaii's gasoline taxes are among the highest in the United States, averaging about 57 cpg Federal, State, and City taxes. The US average is 44 cpg, so Hawaii consumers pay about 13 cpg above the US average.⁵

Refining Impact

The ramifications of the Gas Cap legislation will affect the two refiners in the State. If the refiners measure profitability based on an import parity assessment of product values, the impact will primarily be determined by the relationship between their import parity assessment and ICF's recommended methodology. This difference may not be substantial.

If the refiners view the profitability as integrated with the wholesale marketing business, the impact could be reduced profits, particularly if the Gas Cap directionally reduces the wholesale gasoline prices as indicated in the above historic analysis. In addition, refiners may be further impacted by the mandated ethanol legislation in 2006, which could require refiners to reduce gasoline production to manage supply. These two changes may push Hawaii's refiners to closely examine refinery profitability and sustainability.

ICF believes that it is important to Hawaii's long term energy security that these two refineries be financially sound. A decision to close one of the refineries due to a low return on investment would significantly increase Hawaii's dependence on imported products, including gasoline, diesel, residuals, and jet fuel, directionally raise prices and

⁵American Petroleum Institute 204 summary of State-by-State Taxes, www.api-ec.api.org/filelibrary/MotorFuelTaxes.pdf

require additional inventory for contingency supply. ICF anticipates that both refiners will carefully review both these and the final PUC decisions to assess the potential impact on refinery financial performance.

Wholesale Marketer Impact

Wholesale marketers who buy product on a bulk basis from refiners, or refiners who market on a wholesale basis, are likely to see the greatest impact from the Gas Cap legislation. The Gas Caps will limit the price they can secure from customers on a DTW and Rack price basis. Based on the historical analysis, these could be substantial differences in revenue for these marketers (although the impact of Gas Caps appeared less based on 2004 data). The potential compression of margins may stimulate cost reduction activity among some of these marketers to help restore more historic margin levels.

Marketers who buy product on a Rack basis, and resell to service stations will see their cost of product (i.e. the price they pay) regulated to within a given wholesale cap, depending on zone and gasoline grade. When the marketers resell the product to service stations, or other resellers, they will be required to sell within the stated gas cap in the impacted zone. The specific impact on every jobber and distributor is difficult to quantify, other than, as with the refiners, their day to day business management will be conducted under the umbrella of the Gas Cap legislation.

The specific impact will be driven by the marketer's ability to resell the gasoline purchased to retail stations and cover the cost of delivery and business operations. There may be some unique situations (similar to Hana on Maui) in which small jobbers or distributors have few outlets which are in a high-cost-to-deliver regions, and the PUC may wish to consider some exceptions or further adjustments.

Overall, the Gas Caps are structured so that sales at or approaching a DTW cap should provide a margin to cover a purchase at wholesale rack prices plus delivery cost, and profit.

As with the Refining sector, wholesale marketing suppliers will likely have to closely examine business costs and margins in a market that is regulated. Since the total number of suppliers in Hawaii is small to begin with, the attrition of any marketers due to the Gas Cap impact needs to be quickly understood to minimize supply issues to consumers.

Other Impacts

Competitive Pressure: The existence of Gas Caps should cause refiners, suppliers and marketers to refocus on methods to improve Hawaii's petroleum supply chain cost structure. The market's relative insulation from competitive pressures seen in many Mainland locations may have historically inhibited cost reduction initiatives.

A true free market for gasoline in Hawaii would be evidenced by wholesaler marketers using price to gain market share versus competitors, and arranging additional supply by economic purchases, similar to Mainland locations. The barriers to those economic purchases (which in Hawaii mean imports) are substantial, and are not mitigated by the Gas Cap legislation.

Supply Impacts: While the Legislature's desire to achieve competitive, market based gasoline price caps is much better than simply establishing a hard price cap, the Gas Cap legislation is still a disruption to the free market system. The mechanism proposed herein by the Legislature, and with ICF's recommendations, attempts to minimize those disruptions. There will however, be situations where the gasoline price rises in the Caribbean, or Singapore markets due to events local to those markets which could impact Hawaii consumers due to the formula. Or, outages at Hawaii refineries may locally affect Hawaii supply and inventory, but the Gas Cap would not change because Hawaii's problem likely won't impact the Caribbean, USGC or Singapore markets. More critically, if imports are needed to make up the lost volume, the inability to raise prices beyond the gas cap may blunt economic replenishment, and jeopardize supply.

Ethanol: The Hawaii gasoline market will change in 2006 as the ethanol legislation becomes effective in April, 2006. The use of up to 10% ethanol in 85% of Hawaii's gasoline supply creates an immediate change in the State gasoline supply and demand from being about balanced to long. It will also likely result in higher costs for all suppliers to alter the distribution system to accommodate the ethanol blending and preserve gasoline quality integrity.

Since it is unlikely that the use of ethanol in Hawaii will impact either the Singapore or Caribbean markets, the Import Parity calculation will likely not be impacted. Other changes however may be necessary to account for higher terminal and marketing costs. Notwithstanding the formula changes, the fundamental supply and demand situation in Hawaii post-ethanol blending would tend to depress prices as suppliers work to rebalance and optimize their systems.

The intent of this report was not to identify the issues or impacts of ethanol blending; however, it is clearly a factor which may need to be considered by the Commission in future Gas Cap management.

Business Perception: As noted in the Stillwater report, and other reports (NCSL, etc), the implementation of price controls on commodities can create a perception of an anti-business climate in Hawaii

8.3 Issues Related to 486H-16 Adjustments

This section of the Legislation provides a mechanism to alter portions of the Gas Cap formula and factors based on information provided by a petitioner.

The methodology proposed by ICF provides a mechanism to re-set factors in the formula on an annual basis, and re-set the Import Parity price mechanism on a weekly basis. This may mitigate the need for excessive petitions and reviews.

However, it is likely that any participant or party to the Industry (including consumer advocacy groups) may experience or be impacted by costs or other matters which creates a reason to raise the issue to the Commission.

The only recommendation ICF has related to 486H-16 is that the marketing margin factor (3) adjustment should NOT be based on PADD 5 DTW and Bulk price data from Table 31 in the EIA Marketing Margin document. The differentials can vary greatly,

especially in PADD 5, because the level of Bulk sales can change from year to year, including the location of those sales, and create non-market sensitive data differences.

The adjustment process listed in 486H-16 for Premium/Midgrade (4) and the Zone adjustment process are both consistent with ICF's annual update recommendation.

APPENDIX A: ICF TASK REQUIREMENTS

1. Assist the Hawaii Public Utilities Commission (“Commission”) in reviewing and evaluating the issues and requirements raised by, and contained in, Hawaii Revised Statutes (“HRS”) Chapter 486H, as amended, as may be required by the Commission; and provide guidance and assistance to the Commission, and be available, in person or by teleconference, for discussions with the Commission.
2. Review HRS Chapter 486H, as amended and other relevant and applicable materials to perform the following tasks:
 - a. Examine the effect, impact, and appropriateness of the baseline price as defined in HRS § 486H-13 (c), as amended, and provide recommendations and options as to a more appropriate baseline or a more appropriate reporting service, if any.
 - b. Examine the effect, impact, and appropriateness of the location adjustment factor established by HRS § 486H-13 (d), as amended, at \$.04 per gallon, and provide location adjustment factor, if any.
 - c. Examine the effect, impact, and appropriateness of the marketing margin factor established by HRS § 486H-13 (e), as amended, at \$.18 per gallon, and provide recommendations and options as to a more appropriate marketing margin factor, if any.
 - d. Examine the effect, impact, and appropriateness of the mid-grade adjustment factor established in HRS § 486H-13 (f), as amended, at \$.05 per gallon, and provide recommendations and options as to a more appropriate marketing margin factor, if any.
 - e. Examine the effect, impact, and appropriateness of the premium adjustment factor established by HRS § 486H-13 (g), as amended, at \$.09 per gallon, and provide recommendations and options as to a more appropriate marketing margin factor, if any.
 - f. Determine the type of documents, data, and information the manufacturers, wholesalers, or jobbers must furnish to the Commission to make a determination on zone price adjustments. HRS § 486H-13 (h), as amended.
 - g. Analyze and recommend zone price adjustments to the maximum pre-tax wholesale regular unleaded, mid-grade, and premium gasoline prices and examine the effect, impact, and appropriateness on a zone by zone basis. HRS § 486H-13 (i), as amended.
 - h. Recommend the type of documents, data, and information necessary for the Commission to determine whether the manufacturer, wholesaler, or jobber is complying with any requirement imposed or rule adopted, pursuant to HRS Chapter 486H. HRS § 486H-13 (j), as amended.
 - i. Identify and recommend any further adjustments necessary to establish a maximum pre-tax wholesale gasoline prices that reflect and correlate with competitive market conditions. HRS § 486-16 (c), as amended.
3. Prepare and submit a final written report to the Commission no later than January 14, 2005 addressing all of the issues and requirements of HRS Chapter 486H, as amended.

4. In order to carry out the above-referenced services, CONTRACTOR must be familiar and knowledgeable with the financial, technical, economic and legal aspects related to the structure of the gasoline market in Hawaii and in other states throughout the nation and be up-to-date with current matters and issues affecting the petroleum industry, as a whole.

APPENDIX B: MARKETING SALES CLASSES OF TRADE

The marketing margin cap is comprised of several types of transactions. The overall schematic of the wholesale marketing process (Shown earlier on Exhibit 3.2), shows the possible transaction points noted. The transaction categories are as follows:

EXHIBIT B-1: WHOLESALE MARKETING RACK SALES – BRANDED VS. UNBRANDED

| | BRANDED | UNBRANDED |
|----------------------|-------------------------------------|---------------------|
| Quality | Seller's additives | No additives |
| Supply | High priority | Can be locked out |
| Normal Pricing | Premium to Unbranded | Discount to branded |
| Tight Supply Pricing | Discount to Unbranded | Premium to branded |
| Incentives | Rebates, promotions | None |
| Support | Pricing guidance, operations, etc. | None |
| Value to Seller | Reliability of sales Brand image | Supply fly wheel |

1. Rack Branded Sales: Gasoline purchased by another wholesaler (e.g. jobber or distributor) at a seller's terminal Branded Rack price, with seller's additives and quality characteristics. The gasoline is transported by the buyer to the buyer's service stations which sell the gasoline at retail levels. The Branded Rack seller provides support to the buyer through advertising, retail pricing guidance, supply assurances, and incentives based on sales levels and other factors. The Branded Rack seller expects the buyer to insure that service stations meet Branded Rack seller's standards, with approved signage, and so on. These terms are established through a contractual relationship.
2. Rack Unbranded Sales: Gasoline purchased by another wholesaler at seller's terminal Unbranded Rack price, without seller's additive package or any other support. The gasoline can be transported and sold in the buyer's retail service stations, but may not be sold or labeled as the seller's gasoline. The buyer may market the gasoline under a brand name of their choosing, or resell the gasoline to a retail dealer marketing under their own brand.

Unbranded sales are fundamentally different than Branded. Unbranded Rack prices are typically at a discount to Branded product (See Exhibit 3.8). This is due somewhat to the exclusion of additives, but more importantly, Unbranded

buyers do not receive supply assurance from the sellers, and are at risk for higher prices and/or supply outages when the seller's supply becomes tight. Unbranded buyers accept this risk for the benefit of being able to buy over time at cheaper prices, and may also "cover" their supply by arranging agreements and credit lines with multiple sellers.

The differentiation between these two classes of trade is important in determining a reasonable Gas Cap for each. While Branded sales typically enjoy a premium over Unbranded, Sellers must have the flexibility to raise Unbranded rack prices over Branded at appropriate times to control their inventory and sales levels. Failure to recognize this in the Gas Caps will result in situations where Branded buyers do not achieve the supply assurance they are paying for, and will be competitively disadvantaged.

It is therefore important that Price Caps for Rack gasoline have a higher Price Cap for Unbranded gasoline than Branded. This recommendation is made with the full expectation that Sellers are likely to price Unbranded below Branded normally, and use the Gas Cap flexibility to increase Unbranded above Branded as supply dictates. The flexibility is essential to preserve historic competitive relationships between the classes of trade.

3. **Dealer Tankwagon Branded Sales:** These sales are made from terminals directly to dealer-owned or operated service stations, with the Seller delivering the product to the service station, and selling the gasoline on a delivered basis. These are all Branded sales, with the relationship between the seller and the buyer (dealer) more structured than the Branded Rack sales. The seller provides the highest level of supply assurance, as well as retail pricing guidance, advertising, promotions, and volume and grade incentives, and expects the buyer to maintain the service station and invest in upgrades to support seller marketing strategies.

DTW pricing is often viewed as “Branded Rack plus transportation”; however, oil companies do not set prices to dealers that way. Rather, they evaluate the competitor’s street price in selected supply zones,⁶ and attempt to determine a DTW price that enables the dealer’s profits to be in an acceptable range to the dealer. Frequently, this can approximate the “Branded Rack plus transportation” price, but can be higher or lower for a number of reasons. The presence of a High Volume Retailer (HVR) like Costco or Wal-Mart, or Retail competitors with Convenience stores, or Repair shops, can create zones where the gasoline street price competition forces the oil company to accept a lower than “Branded Rack plus transportation”, or DTW margin to keep the service station dealers’ profitability acceptable to the dealer.

The oil industry’s use of different DTW price “zones” is done to recognize the different competitive situation in specific regional markets. ICF does not believe it is sensible to attempt to construct multiple price cap areas within each of the eight State-wide zones identified in the legislation. This level of granularity would almost require a station by station Gas Cap determination, which would be extremely unwieldy. ICF believes it is more effective to identify an overall DTW Gas Cap, which would then be applied for all of the transactions in each Zone. as defined by the legislation. A company would be required to comply with the DTW Gas Cap in each zone based on their total sales in that zone.

⁶ Please note: the “zones” used by oil companies to establish localized DTW prices are NOT the zones proposed by the Legislation.

4. **Dealer Tankwagon Unbranded Sales:** The Hawaii market has several companies who supply gasoline to independent retail gasoline stations. The suppliers can be major oil companies delivering unbranded gasoline to independent stations, or are small companies who buy gasoline from suppliers either at a supplier's terminal rack, or into the companies' own terminal, and then transport gasoline to the independent station. These sales are similar to DTW Branded sales in the fact that they are delivered sales vs. an FOB Rack sale; however, the gasoline delivered may not contain proprietary additives, or the Brand support that Branded dealers would receive.